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THE

PHILOSOPHY OF MEDICINE:

OR,

MEDICAL EXTRACTS

ON THE

NATURE OF HEALTH AND DISEASE,

INCLUDING THE

LAWS OF THE ANIMAL ŒCONOMY,

AND THE

DOCTRINES OF PNEUMATIC MEDICINE.

BY

A FRIEND TO IMPROVEMENTS.

There are three things which almost every person gives himself credit for understanding, whether he has taken any pains to make himself master of them or not.—These are: 1. *The art of mending a dull fire;* 2. *Politics;* and, 3. PHYSIC.

DR. BEDDOES.

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CURE OF PUTRID FEVER

CONTINUED.

PRACTICAL OBSERVATIONS.

SECT. I.

OF THE EXHIBITION OF ANTIMONY IN PUTRID FEVER.

For typhus, if the light that is now dawning upon phyfiology and pathology does not prefent objects to me under very illufive forms, we fhall not fail to ftrike out an almoft infallible method of cure; and this method, I think it probable, will extend to the fcarlet fever alfo; which is perhaps the moft formidable among the acute difeafes of this climate. In the treatment of fevers we have, it is true, learned to avoid fome fatal miftakes of our anceftors; but we can boaft of little elfe. In thofe cafes, in which alone there is, perhaps, occafion for the interference of art, art feems almoft impotent: from attention to the fingle circumftance of debility, I imagine, that patients are often drenched with wine and opiates, till they are ftimulated to death. If I have imputed the debility to its real caufe, our chief aim fhould be to reftore the principle of excitability; and ftimulants fhould in the meantime be adminiftered with a more fparing hand. Perhaps, when the proper method of reftoring this principle fhall have been devifed, extraordinary ftimulants will become unneceffary. The Materica Medica was once fuppofed to contain diftinct fpecifics for the difeafes of each feparate organ; it is now re-

garded as little elſe than a collection of ſtimuli; ſo that medicine is become the art of adminiſtering drams. Hence it can often only amuſe or palliate, and muſt ſometimes injure, by forcing into motion, conſtitutions already too much worn. How would our reſources be multiplied, if we could give excitability or life, as well as ſtimulants! "But is ſo ſalutary a revolution in medicine poſſible?" I do not know; but is it not worth while to enquire?

BEDDOES.

A CANDID and impartial enquiry into the merit of Dr. James's powders is of great importance to all degrees of men, as it muſt be preſumed that in ſimilar caſes they will be productive of the like happy effects. The rich need no longer tremble at the terrible apparatus of a ſick chamber, the diſcipline, delay, danger, repeated doſes of bark, &c. &c. inſeparable from the ordinary treatment of fevers, nor apprehend their lives may be ſacrificed for want of judgment in diſtinguiſhing when and how ſuch medicines may be reſpectively indicated. The inferior claſs of mankind may rejoice to hear, that, by obſerving the eaſy directions, they may become their own, or their neighbour's beſt phyſicians, and need no longer compound for their lives with the loſs of half their ſubſtance.

Ignorance, indeed, and ſelf-intereſt, ever willing to retain and improve every ſordid advantage, have concurred to recommend this medicine by a zealous oppoſition, and by repreſenting it as a violent remedy. But give me leave to aſk, is this violence exerted againſt the conſtitution,

ſtitution, or deſtroyer of the conſtitution? Doth it not expel the grand enemy from every ſtrong hold with irreſiſtible force, by diſcharges moſt ſalutary and beneficial to the patient? This effect ſeems to follow, whether it acts as an emetic, purgative, or ſudorific.

If this learned gentleman has diſcovered a certain remedy for that terrible tribe of diſorders, which, by the computation of his illuſtrious predeceſſor, Sydenham, ſweeps away two-thirds of mankind, he does not only deſerve all the honours, rewards, and privileges his own country can heap upon him, but a ſtatue of gold in every part of the habitable world. The hiſtorian*, in the life of Timoleon, mentions a frequent expreſſion of that great man, "that he thought himſelf obliged to expreſs his gratitude to the gods, who, having decreed to reſtore liberty to Sicily, had vouchſafed to make choice of him, in preference to all others, for ſo honourable a miniſtration." With how much greater reaſon may Dr. James exult, that providence, in its gracious deſigns to alleviate our pains and miſeries, hath diſtinguiſhed him as the happy inſtrument of conveying a more uſeful and extenſive bleſſing to the whole race of mankind, and of ſaving the lives of millions who are not yet in being!

* Corn. Nepos.

The practice of the late Dr. James, once made as much noiſe in the world as the Suttonian method of inoculation, producing both violent advocates, and its no leſs vehement opponents.

Dr. James knew extremely well how to turn the ſcale to his own ſide, and, in his printed defence of his patent medicine, he very warmly attacks his opponents thus:

Can any one, without ſcorn, ſays he, behold ſuch drones of phyſicians (I ſpeak generally, and therefore deſire no falſe innuendo may be made) that after the ſpace of ſo many hundred years experience and practice of their predeceſſors, not one ſingle medicine hath been yet detected by them, that hath the leaſt force, directly and *per ſe*, to oppoſe, reſiſt, and expel a continual fever, which, by their erroneous applications, is too often provected to malignity? Should any, by a more ſedulous obſervation, pretend, or make the leaſt ſtep towards the diſcovery of ſuch remedies, their hatred and envy would ſwell againſt him as a legion of devils againſt virtue; whole ſocieties would dart their malice at him, and torture him with all the calumnies imaginable, without ſticking at any thing that ſhould deſtroy him root and branch; (of which I could give you a very memorable example, were it convenient) for he who profeſſes a reformation of

of the art of phyſic, in expoſing its impoſtures, and advancing ſuch methods and remedies as are beyond thoſe of the art of expectation, muſt reſolve to run the hazard of the martyrdom of his reputation, life, and eſtate.

As an argument againſt the uſe of his powders, becauſe it was empirical, and degrading to the profeſſion to encourage it, he ſays, let me remind thoſe who plead the dignity of phyſic, that if this is to be the excuſe, and this, like Moloch is to be ſupported by human ſacrifices, it is the duty of every civil ſociety to treat both the art and its profeſſors like the Knights Templars, who for their tranſcendent villanies were extirpated from the face of the earth.

It is ſtill more ridiculous, he adds, to hear the minute practitioners and the retailers of medicines ſay, that they will not preſcribe or employ Dr. James's powder, becauſe they cannot uſe a medicine they do not know. I wiſh they would abide by their own rule; for then, as they know nothing, they would do nothing. But phyſicians are not in the leaſt intitled to the benefit of this evaſion, for I have never once refuſed to make any one, in conſultation, acquainted with it. I did tell the late Sir Edward Hulſe, when we met to conſult about Colonel Stanhope, what it was; and to the late Dr. Shaw I made no ſecret of it, when I ſome years ago met him at a noble Earl's, then in Bruton-ſtreet. But no people are ſo blind

as

as thofe who obftinately fhut their eyes for fear of conviction.

Many of the practitioners in phyfic have afferted, that they have tried my powders, and find that, fo far from being of any fervice, they are hurtful in fevers. Here, in my turn, permit me to make a dilemma. They either have not made ufe of my powders with ill fuccefs, or they have. If they have not, I wifh them joy of all the advantages they can gain by the falfhood. I prefume I may fay, without ill-breeding or offence, that every attempt of this kind is an effort of intereft to ftrangle truth. If they have, I am forry the health of the public fhould be under the care of fuch unfortunate or ignorant practitioners; for ignorant or unfortunate they muft be, or both. How otherwife could it happen, that a lady, a clergyman, or a common overfeer of a plantation, befides a thoufand others, without the leaft pretence to medicinal knowledge, fhould adminifter my powder to many hundreds with fuch amazing fuccefs; and yet, under the management of thofe who have made the ftudy and practice of phyfic the bufinefs of their lives, it fhould have fo contrary an effect?

It is alfo very eafy for malevolence to adminifter a medicine in fuch a manner that it cannot poffibly fucceed; though I think there is little probability that any one of thofe I have been fpeaking of fhould ever give my powders volun-

tarily

tarily to a patient, whilſt he is able and willing to ſwallow other medicines every four hours, and give one or two fees every day. But ſuppoſe a patient, or his friends, ſhould inſiſt upon trying Dr. James's powders, a little confederacy might eaſily blaſt all hopes; a little legerdemain will eaſily find ways and means of ſubſtituting ſomething very inefficacious, or even pernicious, in the place of it, of which the fever powder is to bear the blame. All theſe tricks have, to my knowledge, been often played off, and may be played off again.

We find Dr. James ſoon falling into the ſame ſituation as ruined the great Dr. Brown; but Dr. James liberates himſelf, and turns the rancour of his enemies to his own gain. He relates the circumſtance thus:

An apothecary of reputation and conſiderable practice came to me ſome time ago, and repreſented to me that he had a patient of ſome conſequence, a gentleman for whom he had a very particular regard, who had for many days laboured under an acute fever, and was attended by a phyſician of the firſt character, whoſe method he had reaſon to fear would not ſucceed. He ſaid he ſhould have been glad to propoſe my powder, but was certain the Doctor would infallibly fall into a rage, and reject it; and upon this deſired I would adviſe him how he ſhould conduct himſelf in a caſe where he had ſo great

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an intereſt in the patient's recovery. I told him, though I could by no means approve his giving any thing without the approbation of the attending phyſician, yet I was of opinion that the ſaving of a life ſuperſeded all other conſiderations, and that therefore it would be right to try it. I gave him ſome powders, and the beſt inſtructions I could for their uſe. He prevailed on the family to permit him to adminiſter ſomething unknown to the Doctor, without telling them what it was. The patient took it, recovered, when the Doctor wiſhed to attribute the merit to himſelf.

In treating the ſubject of fever, Dr. James profeſſes to avoid theoretical diſquiſitions, truſting the whole to experience, as of more weight than all the ſyſtems in the world. As there may be ſome, ſays he, whoſe lucrative views may tempt them to perſecute me with all the ill humour of ſelf-intereſt and malice, and think that authority can weigh down truth, I would adviſe them, as Gamaliel ſaid to the Jewiſh Magiſtrates, it is better to let it alone, for if it be of men, it will come to nothing, but if it be of God, ye cannot overthrow it.

Nevertheleſs we find, that he had ſome theory of fever, and that his powder acted as an evacuant of the fomes of this diſeaſe. In his time the treatment of putrid fever was conducted upon the bad principles prevalent even at the preſent day; and he complains, that medical men,

who

who overcame prejudice ſo far as to try his powders, employed at the ſame time medicines by which their ſalutary effects were prevented. For, ſays he, ſnake-root, contrayerva, Raleigh's cordial, *confectio cardiaca*, and bliſters, which all excite heat in a very great degree, and exalt the fervour of the biliary juices, already too much inclined to putrefaction, are in their operations diametrically oppoſite to the fever powder, which is intended to evacuate or alter the offending humours contained in the ſtomach, liver, pancreas, and all the inteſtinal glands; to ſeparate from the maſs of blood, by a ſalutary criſis, thoſe humours already mixed with it, and which excite and ſupport the febrile motion and heat; to ſlacken the rapid motion of the blood; and to induce that coolneſs and temperature which enables the vital organs to perform the reſpective offices aſſigned them, and conſtitutes health.

Dr. Gardiner, late preſident of the Edinburgh College of Phyſicians, ſays that Dr. James attributed moſt of the virtue of his powders to their evacuating effect; for in repeated converſations with the late Sir John Pringle, on the uſe of his powders in fevers, he frankly owned, that their principal efficacy conſiſted in clearing the primæ viæ of viſcid phlegm, putrid bile, and fæces. This, from long experience, he had found was an eſſential circumſtance to be attended to in every ſpecies of fever; and, after this evacua-

tion

tion was made, if no ſweat ſucceeded, it was his uſual practice to give ſmall doſes of his powder every four or ſix hours, to bring out a moiſture on the ſkin. But, if he did not ſucceed in this intention, the powders were laid aſide, and the cure conducted agreeable to the general practice of other phyſicians; and he appears to acknowledge, with more frankneſs and honeſty than the venders of noſtrums commonly poſſeſs, that all the effects of his powders were to be obtained by a judicious exhibition of tartar emetic, when the preciſe ſtrength of it was known to the preſcriber. For his notion of fevers was, that they all had a tendency to remit or intermit; but theſe changes, from a continued form, are in certain caſes obſtructed, either from ſome inflammation, or a foulneſs in the primæ viæ, and that his powder did not ſo much cure a fever, as diſpoſe it to remit or intermit, and thereby to make way for the bark, which he properly conſidered to be the grand febrifuge. And, with regard to the whole of Dr. James's practice in fevers, Sir John was not only ſo well convinced of his judgment in his general plan of the cure of fevers, but, from the free and unreſerved manner in which he anſwered every queſtion put to him on that ſubject, that he reſolved never to refuſe to meet him again in conſultation.

However, Dr. James, in his diſſertation on fever, ſays many people have fallen, or rather been artfully

led

led into a great error, when they have thought that if my powder does not operate fo as to carry itfelf out of the body, it is dangerous. This is fo far from being true, that in at leaft half the cafes in which I prefcribe it, I give it as an alterative, without any defign that it fhould have any, or much fenfible operation; and many hundreds of people have taken it in this way for many weeks, without the leaft inconveniency, and to great advantage.

The fuppofed violence of the operation of my powder, exaggerated by thofe who thought it their intereft to decry it, has deterred more people from taking it than any thing befides. All I can fay to this is, that in general, like other medicines, it operates in proportion to the dofe given; or according to what it finds in the ftomach, or inteftines, or to the obftruction it meets with. If I judge right, it is much actuated by the bile, when that fluid has contracted fuch a ftate as to excite or conftitute a fever *; becaufe when the

* It is not unreafonable to fuppofe, that fome morbid alteration in the bilious juices may excite fevers, and all their fymptoms, in every cafe but thofe of the fymptomatical kind, and perhaps in thofe too. If any one is inclined to be farther informed upon this fubject, let him read Frederick Hoffman's Treatife *de Bile Medicina et Veneno Corporis*. In this cafe, I fay, any one medicine that will evacuate the offending bile, or alter it in fuch a manner as to render it no longer offenfive, will cure the effect of it, a fever, let the caufe of this defect in the bile be what it will.—DR. JAMES.

green

green or yellow bile is discharged, if it should be repeated for ever, it will no longer exert any emetic or cathartic efficacy, perhaps not operate at all, even in a dose much increased. I have often known it act very forcibly when the patient who took it laboured under an acute fever; and when the very same person has taken it in a larger dose, for a slight illness, it has had no tendency to excite either vomiting or stools. But, in desperate cases, I am of opinion it should be administered in such doses as may have some immediate effect; and as, upon these occasions, there is no time to lose, the sooner the operation commences the better. In other cases, however, of less urgency, it is an easy matter to regulate the doses in such a manner as to succeed without any hazard of reducing the patient, by beginning with small doses, repeating them at such intervals as the effects of the preceding shall indicate.

The only means of improving the art of healing, is either to increase the number of specific medicines, or to investigate the conduct of the natural œconomy in the spontaneous cure of distempers, so as to arrive at more certain indications, and ascertain the methods to be pursued, when nature, unassisted, is deficient, and unequal to the task.

But the case is very different where a *specific antidote* is to be administered; for here the indication is only to cure the patient by a medicine

which,

which, experience teaches, has cured twenty thoufand before in the fame ftate, when given in the fame manner. Here neither the phyfician nor the patient hazard much. If the antidote, fuppofe it the bark, has cured twenty thoufand, but has failed in only fifty, it is then twenty thoufand to fifty, or a thoufand to two and a half, that it cures the prefent diftemper, *cæteris paribus*; and the phyfician has little to do, but take care of the *cæteris paribus*; and the patient little to fear, as the calculators of chances would inform him that the rifque is very fmall. There are feveral *fpecific antidotes* befides the *bark*, and *I make no doubt of having added one to the number.*

In corroboration of this opinion, we have feveral well authenticated cafes publifhed by Dr. James.

THE CASE OF MISS ECCLES.

On Wednefday the 18th of March, 1748, I was directed by a lady of diftinction in Weftminfter, to attend Mifs Eccles, at her brother-in-law's, Mr. Hodges. She was about twenty-two years of age, had enjoyed a general good ftate of health, but was not of a very robuft conftitution. I underftood that fhe came out of the country about a month before, and was foon after feized with a diarrhæa, which I had reafon to believe would have terminated a fever, which now began to affail her. But it feems it was not thought proper that this fhould continue; for fhe had

taken

taken a great number of draughts and boles, in which diafcordium, the bark, and other aftringents and opiates were ingredients. Thefe had the intended effect, for the diarrhæa was checked; and upon this fhe became exceedingly feverifh, her pulfe high and quick, her urine high-coloured, her countenance remarkably red and florid, and fhe was, at intervals, fomewhat delirious*. Thefe circumftances I collected from thofe about her. The morning I vifited her, fhe had taken twenty grains of ipecacuanha, which did not operate as an emetic, but purged her copioufly three times; in confequence of which fhe was manifeftly better in all refpects. I was going to prefcribe, when the apothecary mentioned a phyfician who attended her, upon which I declined directing any thing until I had feen him, and an appointment was made for our meeting the next morning at eleven. Accordingly I went at the time; but the doctor thought proper to behave in fuch a manner, that I left her entirely to his management. But on Tuefday, March 24, Mr. Hodges came to my houfe, and defired earneftly that I would fee the young lady again. Accordingly I paid her a vifit. Mifs Eccles was at this time exceffively delirious, and had been fo for fome days,

* Sir John Pringle conftantly obferves, that diarrhæa prevented putrid fever, and when ftopt, fever fupervened. How inattentive have phyficians been to this remark!

during

during which time ſhe had never ſlept; her tongue was very much diſcoloured; her pulſe extremely low and quick; her heat was exceſſive; and her urine ſometimes pale, and ſometimes a little coloured, but crude. The medicines ſhe had taken were *cordial* draughts, and boles every ſix hours, from the time I left her; for I was informed there was ſome ſuſpicion of a miliary fever, which was to be expelled through the pores of the ſkin. After having complained, before this lady's friends, of the hardſhip of attending a lady under ſuch inauſpicious circumſtances, I conſented to undertake the conduct of her caſe. I immediately applied a bliſter to her head, and ſtimulating cataplaſms of muſtard ſeed and horſe-raddiſh to her feet. Meantime I took care to procure two ſtools by a clyſter. That evening ſhe took a doſe of the fever powder, which was repeated ſome hours after; but *neither had any perceivable operation*. The next day, March 25, her urine depoſited a copious ſediment, though ſhe ſtill continued delirious. I repeated the third doſe of powder, which, like the preceding, had *no ſenſible operation*. Every body, however, about her, could perceive that ſhe was viſibly mended. In the afternoon I gave her half an ounce of Glauber's ſalts, which purged her twice. That night ſhe ſlept. The next morning, March 26, I found her in her ſenſes, and ſo much recovered, that I told the family I thought her out of dan-

ger.

ger. In a very few days the fever left her, but ſhe remained very weak.

The following letter from the Rev. Mr. Burton of Elden, near Thetford, to Dr. James, is ſtill more to our purpoſe:

SIR,

"I have already adminiſtered above thirty "dozen of powders, and they have never failed, "under the bleſſing of God, in any one inſtance. "They have done many ſurpriſing cures; and I "cannot omit the following inſtance of the ſafety, "as well as the excellency of them. A man was "ſeized with a fever in my pariſh, the apparent "wretchedneſs of whoſe circumſtances equalled "the miſery of his diſorder, for he was ſurround-"ed by a wife and ſeven children, who entirely "depended on his labour for ſupport, and who, "in a fit of deſpair, had juſt performed, as they "ſuppoſed, the laſt friendly act, by laying him on "his ſide in order to die eaſy. In this ſituation, "I gave him ſeven grains of your powder, which, "by a few repetitions of that quantity, in ſome "days perfectly reſtored him to health. He is "now alive, and as hearty as ever. Many in-"ſtances I have met with, wherein the powders "have operated much, but removed the cauſe; "many again in which they have been attended "with *no ſenſible operation, yet perfected the cure.*

"It

" It is no inconſiderable proof of the goodneſs " of a medicine, when the gentlemen of the fa- " culty (however they publicly decry it) make " uſe of it under a diſguiſe themſelves; and of " the certainty of this I have been a witneſs.

" As I have, from an experimental knowledge " of the powders, the ſucceſs of them at heart, " as a friend to mankind in general, and to my " country in particular, I ſhould, with great con- " cern, hear that the world was, by any ſiniſter " means, deprived of ſo valuable a medicine; " and therefore I ſend you this to be made uſe of " as you think proper.

" I am, Sir,

" Your ſincere friend and humble ſervant,

" GEORGE BURTON."

It is now time I ſhould give ſome account of the preparation of this famous powder.

Tartarized antimony, known commonly by the name of emetic tartar, was long, like James's powder, conſidered to be a ſpecific in the cure of fevers. Baſil Valentin, a Benedictine monk, was the firſt who recommended antimonial preparations to the attention of medical practitioners. This he did in a treatiſe, which he intitled *Currus triomphalis Antimonii*, which he publiſhed at the cloſe of the fourteenth century. Among the firſt in

 modern

modern times, who introduced the uſe of antimony in fevers, was the famous Dr. Liſle, from whoſe grandchildren, ſays the Rev. Mr. Townſend, I learnt his preparation, of which the following is the form:

> Boil a pound of hartſhorn ſhavings ſix hours in eight quarts of water, then take them out, dry them and reduce them to a powder. To a given quantity of this add an equal weight of crude antimony, putting the whole well mixed into a crucible. Keep it eight hours on a briſk fire, frequently ſtirring the mixture with a long thin iron: then reduce it to a very fine powder, and keep it in a bottle for uſe. The doſe is twenty grains.

This is nearly the preparation, continues Mr. Townſend, adopted by the College of Phyſicians, and, as I apprehend, was that uſed by Dr. James himſelf, with this exception, that he undoubtedly at firſt combined with it calomel, for which he afterwards ſubſtituted tartar emetic, in the proportion of one grain to nineteen of his powder. If this be true, here then is the recipe of Dr. James, or one equally good, though to be had at leſs expence. But I am giving a reaſon for its preference, which is not always a good one with the public, who, from an unaccountable imbecility, have greater faith in the virtues of any medicine vended as a noſtrum, than when they come to know its exact compoſition.

compoſition. Phyſicians of practice, on many occaſions, are obliged to avail themſelves of this knowledge, otherwiſe the medicines they order loſe their credit with their patients, whoſe faith in their virtues continues ſtrong, even in the moſt ſimple remedies, whilſt they remain ignorant of what is preſcribed for them.

Dr. Cullen, ſpeaking of antimony, ſays, that the preparations of antimony, however various, may be referred to two heads: the one comprehending thoſe in which the reguline part is in a a condition to be acted upon by acids; and therefore, on meeting with acids in the ſtomach, becomes active: and the other comprehending thoſe preparations in which the reguline part is already joined with an acid, rendering it active.

Of each kind there are great numbers, but not differing eſſentially from one another. It will be enough for us to compare the calx antimonii nitrata of the Edinburgh diſpenſatory with the emetic tartar of the ſame. The former, as I judge, is nearly the ſame with what is called James's powder*. Which of theſe is beſt ſuited to the cure of fevers, as above explained, ſeems doubtful; but it appears to me, that, although the

* The Pulvis antimonialis of the London Pharmacopœia is intended as a ſubſtitute for, or imitation of, James's powder. The doſe of it is 7 or 8 grains. It is by no means ſo ſure in its operations as the emetic tartar; yet it has been much extolled by ſeveral eminent modern practitioners.

former may have ſome advantages from its ſlower operation, and may thereby ſeem to be more certainly ſudorific and purgative, yet the uncertainty of its doſe renders it inconvenient, has often given occaſion to the timid to be diſappointed, and to the bold to do miſchief. On the other hand, the doſe of the emetic tartar can be exactly aſcertained; and I think it may be exhibited in ſuch a manner as to produce all the advantages of the other.

Dr. Monro, brother to the profeſſor, took the pains to examine the records of the Court of Chancery, where the preparation is given, the patentee being firſt ſworn in the moſt ſolemn manner, that this is the true and only genuine receipt for preparing it.

RECEIPT.

"Take antimony, calcine it with a continued protracted heat, in a flat, unglazed, earthen veſſel, adding to it, from time to time, a ſufficient quantity of any animal oil and ſalt, well dephlegmated; then boil it in melted nitre, for a conſiderable time, and ſeparate the powder from the nitre, by diſſolving it in water."

When the Doctor firſt adminiſtered his powder, he uſed to join one grain of the following mercurial preparation to thirty grains of his antimonial powder; but in the latter part of his life he often declared, that he had long laid aſide the

the addition of the mercurial. His mercurial, which he called a pill, appears, by the Records of Chancery, to have been made in the following manner:

SECOND RECEIPT.

"Purify quickfilver, by diftilling it nine times from an amalgam, made with martial regulus of antimony, and a proportional quantity of fal ammoniac; diffolve this purified quickfilver in fpirit of nitre, evaporate to drynefs, calcine the powder till it becomes of a gold colour; burn fpirits of wine upon it, and keep it for ufe.

Signed and fworn to by me,

ROBERT JAMES."

Refpecting the adminiftration of this powder Dr. James gives the following directions:

DIRECTIONS.

If the patient is of a ftrong conftitution, young, and full of blood, it is prudent to take away ten or twelve ounces; though this is not always abfolutely neceffary, except in the beginning of a fever; for at the latter end of a fever, when the patient is very weak and exhaufted, bleeding may be prejudicial. If the patient is coftive give a clyfter, either of milk and brown fugar, or of warm water, with a large fpoonful of falt; or a ftool

may be procured by two drams or more of lenitive electuary, half or three quarters of an ounce of purging ſalt, or from ten to twenty grains of rhubarb. But it is not meant here, that the patient ſhould be purged much, but only that coſtiveneſs ſhould be prevented. This part of the directions ought equally to be regarded in the treatment of every acute diſtemper, when any kind of evacuations are intended to be procured, not only by the powder, but by any other medicine whatever. The greateſt of the modern practical authors aſſert, that a neglect of bleeding before a vomit, or a purge, has ſent great numbers to the grave. This caution is of the more importance, when either this medicine, or any other is taken, becauſe many apothecaries, and lower practitioners in phyſic, frequently vomit or purge, or both, without previous bleeding; alledging for a reaſon, that the pulſe is very low. But in this ſtate the lowneſs of the pulſe is a cauſe for bleeding, not againſt it, for reaſons very obvious to phyſicians who underſtand their buſineſs.

There are two papers of powder ſealed up in each packet, containing about twenty grains each. —Let the patient take, in bed, half or a third of one of theſe papers, mixed in a ſpoonful of panada, any ſyrup, jelly of currants, barley-water, gruel, or any ſort of tea; taking care that none of the powder is left in the ſpoon: or rather, let it be made into a bolus with conſerve of

orange-

orange-peel, or almoſt any other conſerve, or jelly. Let the patient be kept warm during the operation, and drink now and then, at pleaſure, a baſon of any thin, diluting liquor, warm; as gruel, barley-water, common milk whey without wine, or baum-tea. If it is attended with any ſenſible operation, as ſickneſs, purging, or ſweating, it is not neceſſary to repeat it till the operation is entirely over; and then another half paper, or a third, is to be given in the ſame manner as the firſt. By the time that the operation of the ſecond doſe is finiſhed, the feveriſh heat, head-ach, thirſt, dryneſs of the tongue, and anxiety, generally diſappear, and the patient ſleeps eaſily. In this caſe it is not in the leaſt neceſſary to take any thing more, for without it the patient will hourly gather ſtrength and recover.

But if any part of the fever remains, a third doſe ſhould be given, as ſoon as the operation of the ſecond is over; and the ſame quantity (that is, a third, or half a paper) is to be repeated in the ſame manner, till the fever is quite cured.

But if it happens that the firſt doſe has no ſenſible operation, a ſecond ſhould be repeated two hours after the firſt; and if the ſecond has no ſenſible operation, in ſix hours, two-thirds, or a whole paper, ſhould be given, and repeated every ſix or eight hours, till it operates either by purging, ſweating, or vomiting, or the fever is cured; which often happens without any operation at all.

all. But the beſt general and plain direction is, to repeat half, or a third of a paper, once in ſix hours, till the diſorder is removed.

A child of two or three years old may take three or four grains, or ſomething leſs than a quarter of one of theſe papers of powder; a child of eight or nine, one-third, or more, if neceſſary; and one of fourteen or fifteen, the ſame quantity as a grown perſon.

If it purges, all poſſible care ſhould be taken to avoid cold, and for this reaſon it is neceſſary to uſe a bed-pan. The diſtemper itſelf requires all theſe cautions, though neither this nor any other medicine had been taken. But they are more to be regarded when any medicine is taken that is expected to excite a ſweat. And it muſt be remarked, that it is by no means intended that a patient who takes this medicine ſhould be kept very hot by fires, bed-clothes, or any other means. It is ſufficient that he is a little more defended from the air, and kept a very little warmer than in a ſtate of health.

It ſometimes happens, when little or no putrid bile is contained in the ſtomach, bowels, &c. that the powder, though given in the largeſt doſes, will have no ſenſible operation of any kind whatever. In theſe caſes, half or a whole paper ſhould be repeated every four or ſix hours. But on theſe occaſions it will be proper to procure two ſtools in twenty-four hours, either by a clyſter, which

which is the moſt eaſy way, or by giving with every doſe of powder, from five to ten grains of rhubarb, omitting it when the purpoſe is anſwered, and reſuming it when it again becomes neceſſary. It is not to be concluded, that becauſe this medicine produces no operation, either by vomiting, purging, or ſweating, that it is in ſuch caſe of no efficacy, much leſs that it can be prejudicial, by being retained in the body; for there are other diſcharges by which a criſis is often made, and the diſtemper cured, as by urine and inſenſible perſpiration*. And there is great reaſon to believe it frequently acts ſo as to extinguiſh a fever, by a *ſpecific quality*, diſcoverable only by experience, and which, perhaps, no one as yet is ſufficiently acquainted with.

The head in fevers is often very much affected, and the patient is light-headed, inſenſible, or convulſed: theſe ſymptoms the powder generally removes in a little time; but as they are very troubleſome and dangerous, it would be prudent to apply ſtimulating cataplaſms all over the feet, in caſe they are not removed by the firſt or ſecond doſe, and let them be renewed every ſix or eight hours, till the ſenſes return, and the head is relieved.

The cataplaſms are thus made: Take equal parts of muſtard-ſeed bruiſed, and horſe-radiſh

* See VINDICATION of the fever powder by Dr. James.

ſcraped,

ſcraped, a little old yeaſt or barm, and as much of the ſharpeſt vinegar as is ſufficient to make a cataplaſm; but at ſea, where horſe-radiſh and old yeaſt cannot be had, a cataplaſm may be made with pickled herring, beat up with vinegar and freſh muſtard.

But it ſometimes happens, that after a fever is ſubdued, the patient will be low-ſpirited and dejected, and labour under a kind of languor for ſome days. In ſuch a caſe I do not think it at all neceſſary to repeat this medicine, or give any other whatever. But if the heat is moderated, the tongue much cleared, the pulſe regular, and not too quick; if the urine depoſits an equal ſediment, and the patient begins to ſleep, I eſteem nothing but a little care requiſite for his abſolute recovery; unleſs in caſe of coſtiveneſs, where it may be prudent to give a ſtool or two by half an ounce of Glauber's ſalt, or manna, or any other gentle cathartic.

In this general direction there is no mention made of bark; although Dr. James, throughout his account and defence of his powder, extols the uſe of bark, after their operation, to prevent a return of fever, and to give tone. Among ſeveral, we will ſelect the following cure publiſhed by him:

Robert Kay was taken ill of a fever on Saturday, July 9, 1774. On Sunday evening he went to bed without any violent ſymptoms; but in the night he was ſeized with a delirium, inſomuch that

that very early on Monday morning he came down ſtairs naked, and behaved in every reſpect like a perſon light-headed. All Monday and Tueſday the delirium continued in ſuch a manner, that he was very outrageous; and it was with great difficulty that two or more perſons, whom his maſter placed about him, could keep him in bed.

Tueſday morning, July 12, he took a doſe of ſeven grains of Dr. James's fever powder, which was repeated three times during the ſame night. It operated principally by ſweat, yet gave him four or five ſtools.

Wedneſday morning, July 13, he was better, though not entirely free from delirium: it was, however, thought proper to give him the *bark*. This morning he had two hours ſleep, which he had not had for three days before. In the evening, about ſeven, the violence of the delirium returned. He immediately took ten grains of the fever powder, and repeated it in ſix hours. He had three or four hours ſleep in the night, and was quiet.

Thurſday, July 14, his delirium left him. The bark, however, was ſtill continued, and he had no ſigns of fever the whole day. He paſſed the night with great eaſe and much ſleep, and has been ever ſince perfectly well.

The obſervation which Dr. James makes on the following cure is: "The above is very

"worthy

"worthy the attention of the public, as it is an inſtance of the great efficacy of the *fever powder* and the *bark*, when mutually employed to aſſiſt each other. It is a remarkable property of the powder, that in the very worſt caſes, if it does not effect a cure itſelf, it generally brings on a remiſſion, ſo as to give an opening for the *bark*; and by continuing this during the remiſſion, and the former during the fit, the moſt dangerous and difficult fevers will be generally ſubdued in a very ſhort time."

In the Medical Dictionary, publiſhed by Dr. James, he endeavours to inſinuate that the preparation of his powder much reſembles, if it be not the very ſame, as what is called the ALCHEMISTICAL REGULUS OF ANTIMONY.

PROCESS.

1. Take of iron nails, half a pound; put them into a ſtrong, large, ſound crucible, cover it with a tile, place it in a wind-furnace, and cautiouſly raiſe a fire till the nails are perfectly ignited. Then, by a little at a time, add to the beſt powdered antimony, made very dry and hot, ſixteen ounces, and cover the crucible a little with a tile. As ſoon as ever the antimony is thrown in, it emits a white fume; and, not a great while after, is put into fuſion, and at the ſame time cauſes the iron to melt alſo. When they are reduced to a very liquid

liquid ſtate, which may be examined by a long tobacco-pipe, throw in, gradually, of the hotteſt, drieſt powder of nitre, three ounces. Upon every injection, there is excited a prodigious ebullition, noiſe, and conflict, and ſometimes a crackling; and if a perſon ſhould unwarily throw in the nitre damp, the whole would fly about with imminent danger to the operator. When they have ſtood in this condition ſome time, the matter caſts out lucid ſparks. Let it flow, like water, for the ſpace of four or five minutes, and then pour it out into a melting cone, which ſtrike gently; and when the maſs is grown cold, knock it out. In this manner I have had eleven ounces ſix drams of regulus, and eleven ounces of ſcoriæ; ſo that, with what ſtuck to the crucible whilſt it was pouring out, there were loſt four ounces two drams.

2. Put this regulus into another crucible, ſet it in the fire, melt it, and, when it is in fuſion, add to it three ounces of antimony, reduced to powder, and made very hot and dry; and when this is melted, throw in, by degrees, three ounces of powder of nitre, very hot and dry alſo; and then fuſe them with an intenſe fire, and keep the matter in a perfect liquid ſtate for the ſpace of five minutes; after which pour it into a melting cone as before. By this means I have procured ten ounces and ſix drams of regulus, which were purer than the former.

3. Take

3. Take this ſecond regulus, put it into a freſh crucible, melt it again, and throw into it three ounces more of nitre, with the ſame caution as before. Melt the mixture with a very intenſe fire, for otherwiſe it will not flow, and then pour it into a cone. By this third fuſion I have had nine ounces two drams of an exceeding white ſilver-coloured regulus, that was ſurpriſingly ſtarry, and two ounces ſeven drams of ſcoriæ; ſo that there was loſt one ounce five drams.

4. Once more melt this third regulus in another crucible, and then add three ouces of nitre as before, which will then require a prodigious ſtrong fire to melt it, though the regulus flows at the bottom of the crucible like water. Keep them in perfect fuſion for the ſpace of an hour, and then pour them into a cone. Thus then I have obtained ſeven ounces three drams of an exceeding pure and beautiful ſtarry regulus, that looked juſt like ſilver, together with two ounces ſeven drams of ſcoriæ, of a golden colour, and a perfect fiery taſte; which is a pretty extraordinary phenomenon.

5. For this operation, the crucibles muſt be very ſound, ſtrong, and large, and muſt be heated very gradually: the fire muſt be equally kept up to its greateſt ſtrength, for otherwiſe the nitre will not melt; and the cones muſt be moderately warm, very clean, and perfectly dry, and, within, rubbed over

over with tallow. If you attend to these cautions, you will meet with success.

REMARKS BY DR. JAMES.

There are many useful things to be learned from this operation: iron, which is extremely difficult of fusion, melts in antimony, as all other metals do in lead; and then the iron, being corroded by the melted antimony, becomes combined with its sulphur; whilst both the mercurial part of the iron and the antimony are expelled, and, uniting into one mass, fall to the bottom; and the sulphur of them both rises together to the top. The nitre that is thrown in burns furiously with these sulphureous bodies, agitates the melted elements to their very inmost parts, and hence unites those that are similar, and separates the heterogeneous: by the force of the antimony the iron is destroyed, and its metallic sulphur, which is the gold of the alchymists, unites with the internal metallic sulphur of the antimony, and thus both remain combined with the mercurial part of the antimony; and hence you have a regulus, which is beautified with a star, and by its fine silver colour teaches us the exceeding purity of its mercury. The scoriæ contains iron, sulphur of antimony, and nitre, united together, and changed into a wonderful body, whose secret medicinal virtues, when it is properly managed, and rightly applied, those who are acquainted with

with these things greatly extol. These scoriæ puff up surprisingly in the air: but let this suffice concerning the first fusion. In the second, the external sulphur is still farther extracted, and the metalline sulphurs of the iron and antimony are more fixed, with their mercuries, into a purer regulus. In the third fusion, the surprising powers of the sulphureous metallic fire, that lies concealed in the regulus, begins to discover itself, which, by fixing the nitre, renders it exceeding difficult of fusion, though it was before melted by a more gentle fire than any other native salt; and impresses upon it a remarkable igneous quality, so that, upon being applied to the tongue, it truly burns it, though its proper taste is naturally exceedingly cold; it makes it, moreover, alcalescent, without the addition of any vegetable substance, and causes it to run spontaneously in the air, though it would remain dry in it before. The fourth fusion discovers the same things more evidently: here the pure sulphur, only by its odorous exhalation, as it were, and simple contact, changes the nitre more powerfully, and thus demonstrates the secret power of metallic sulphurs. This regulus has almost turned the heads of some of the profoundest chymists. Consult Paracelsus, Suchtenius, Philaletha, Pantaleon, Becher, and Stahl. *For my own part, when I reflect upon the time and pains I have employed in examining into the nature of this regulus, I cannot forbear being surprised at my own patience, and can scarcely help being ashamed*

to

to think, that ſo great a part of my life ſhould have been ſpent in this enquiry.

Thus it was that every art was uſed to prevent the detection of the compoſition of this famous powder. The public mind was prepoſſeſſed greatly with the idea that it was compoſed of nineteen parts diaphoretic antimony*, and two of tartar emetic †. To obviate this opinion, Dr. James publiſhed the following caſe.

Mr. Altree, a perſon I had ſome intimacy with when he practiſed as a ſurgeon, man-midwife, and apothecary, at Wolverhampton, ſome time after ſettled in London. He one day, in converſation, told me that he had certainly diſcovered the preparation of my powders. I promiſed him, upon my word, that if he had, I would on no account diſguiſe it to him. He informed me, with an air of triumph, that it conſiſted of nineteen grains of *diaphoretic antimony*, and two of the *tartar emetic.* There was ſomething too ridiculous in this to deſerve a ſerious anſwer. Mine was, that I was ſurpriſed to find he underſtood chemiſtry enough to make the diſcovery. The Doctor, very certain that he was in the ſecret of my powder, practiſed with it during a few months with ſucceſs not much to be boaſted of. But at laſt he himſelf contracted a fever. He did not fail to take his diaphoretic

* Calx antimonii. † Antim. tart.

antimony and tartar emetic, till in a few days he became delirious. His family then called one of the moſt eminent and ſenſible of the faculty, who pronounced the caſe deſperate, and he very ſoon died by his own imprudence, aided, I am ſorry to ſay, by my too ludicrous treatment of a ſubject that required more ſeriouſneſs.

Antimony was a great favourite of Dr. Cullen. He uſed to exhibit it in ſmall doſes, at diſtant intervals, and it appeared to him to relax the ſpaſm on the ſurface, which he made the proximate cauſe of fever; but whatever was the theory of its operation, its ſucceſsful application made it afterwards be followed by other practitioners *.

* The doſe of the antimonium tartariſatum ſhould never exceed three grains. The beſt method of giving it is, to diſſolve three grains in ſix ounces of water; and of this mixture give two table ſpoonfuls: if no vomiting enſues within twenty minutes, repeat the doſe, and continue to give a table ſpoonful every ten minutes till the vomiting is excited, which muſt be encouraged by drinking plentifully of chamomile tea, or a thin water gruel. If the emetic tartar be intended for a ſudorific, two table ſpoonfuls of the following ſolution every two or three hours, will perhaps be more proper than ſmall doſes of the other.

R. Antimonii tartariſati, gr. 2.
Aq. Cinnamom. ſimpl. unc. 2.
— Font. unc. 6.
M. F. julap.

That is,
Tartarized antimony, two grains.
Cinnamon water, two ounces.
Common water, ſix ounces.
To be made into a julep.

Lind

Lind was alſo much attached to antimonials. Having, ſays this eminent phyſician, made very frequent mention of the virtue of antimonials in fever in all his works, I ſhall now, he adds, take this opportunity of delivering my ſentiments fully upon them. He proceeds thus:

Antimony appears to poſſeſs a virtue eminently febrifuge, which it frequently exerts independent of any evacuation.

The uncertain operation of antimonials, and the profuſe evacuations which they have been, in ſome caſes, known to produce, have been urged as objections againſt their uſe in fevers; but ſuch objections ariſe merely from an injudicious adminiſtration of the medicine, or from an ignorance of the proper method of managing it.

Large doſes of antimonials, or even ſmaller ones, too frequently repeated, have ſometimes brought on evacuations which have ſunk the patient; it is, therefore, always adviſeable to begin with a ſmall doſe, in order firſt to judge of its effects on the conſtitution.

Should antimonials, notwithſtanding this precaution, prove unexpectedly violent in their operation, opium will always effectually check them. The opiate may be given either alone, to reſtrain evacuations already too violent, or may be combined with the antimonial to prevent them. Antimonials thus guarded, may be adminiſtered with ſucceſs, even in fevers attended with a purging.

An opiate, given after the too ſevere operation of an antimonial, checks all further evacuation, recruits the patient's exhauſted ſtrength, and in ſuch a caſe ſeems requiſite to the entire removal of the fever; it allays the febrile anxiety, and brings on a ſtate of perfect eaſe, without which the ſucceſs of antimony would not be complete.

Some preparations of antimony contain this febrifuge virtue in a high degree, as tartarum emeticum, and Dr. James's powder. Others contain it in a leſs degree, as vinum antimoniale.

By an order from the Admiralty, the navy of England, and the naval hoſpitals, were ſupplied with a medicine, called Doctor James's Fever Powder; with inſtructions to obſerve and report the effects of it in fevers. In conſequence of that order, this powder has been given at Haſlar Hoſpital, in various caſes of fevers, to ſeveral thouſand patients. A third or fourth part of the powder contained in one paper was commonly preſcribed at firſt, and repeated every four hours. When the whole quantity in a paper, which varies in weight from 24 to 30 grains, had been thus adminiſtered, without producing any ſenſible effect, half a paper was given in one doſe, and repeated every ſix or eight hours. After which, if the patient ſtill remained coſtive, and it was judged that an evacuation would be uſeful, a whole paper was adminiſtered at once: that quantity having been frequently found a mild and efficacious

purge,

purge, even after the recefs of the fever. If the patient could fwallow a bolus, this powder was mixed with conferva fructus cynofbati, except when there was a diarrhœa, or too frequent ftools; in which cafe it was adminiftered in the philonium Londinenfe. When there was a fubfultus tendinum, four or five grains of camphire were added to the powder; and other medicines occafionally. This powder was given with moft fuccefs, when the head was affected with violent pain, or ftupor, and often when the patient was delirious or comatofe, or both; in which laft ftate, after he had continued feveral days, there were many inftances of an apparent and falutary effect from this medicine, even when it acted merely as an alterative. The tartarum emeticum, from repeated trials, I find to be poffeffed of a virtue fimilar to that of Dr. James's powder. Like that powder, it requires alfo to be occafionally compounded with other medicines, with camphire or nitre, to improve its efficacy, or with opiates, to prevent its irritation of the ftomach and bowels. Half a grain * of it will be quite fufficient for the firft dofe, which may be repeated every fix hours; and to produce evacuations, may be occafionally increafed.

* Recipe aquæ Alexiteriæ fimplicis drachmas decem, aquæ Alexiteriæ fpirituofæ, fyrupi e corticibus aurantiorum, fingulorum drachmam unam, tartari emetici granum dimidium. Mifce. Fiat hauftus, cui pro re nata adde nitri grana tria.

The vinum antimoniale,* upon ſeveral comparative trials, I have found to be poſſeſſed of a leſs degree of febrifuge virtue than the tartar emetic. I have, however, ſometimes preſcribed with ſucceſs the vinum antimoniale in large quantities, when a patient in a fever had continued for ſeveral days in a doubtful ſtate of recovery, comatoſe, and inſenſible, with a continual ſtupor on the brain, and a violent ſtruggle and oppreſſion of the vital organs. In this caſe, I give a drachm of it diluted with water, and repeat it every two hours, with the increaſe of half that quantity, until an ounce is taken, or ſome ſenſible effect produced. If it brings an inclination to vomit, this evacuation ſhould be promoted by drinking warm water; and if there be a tendency to a looſeneſs, forty drops of the tinctura opii ſhould be added to each ounce of the wine.

A DIGRESSION.

A DIGRESSION.

SECT. II.

ON THE PROGRESS OF QUACKERY.

I CANNOT help here obſerving, that although the world is greatly indebted to Dr. James for the introduction of antimony, that his conduct has introduced a ſyſtem of *quackery* moſt baleful to mankind. The moſt dangerous remedies are now publickly vended, and find patrons, and the people ſwallow them down with greedineſs, ſeeing that Dr. James had his enemies, why ſhould not the ſame be the caſe of ———, who for ſixteen pounds, or leſs, has purchaſed a St. Andrew's degree. Hence young men educated to the profeſſion, have quitted the paths of honour, and the line of their anceſtors, to deceive a credulous people with a pretended noſtrum. When practitioners thus league themſelves with coblers, tinkers, Jews, linen-drapers, dancing-maſters, keepers of brothels, and mountebanks, they deſerve the reproach of the faculty, with the public indignation.

In

In vain are colleges endowed, and called *royal* foundations, if this growing evil be not checked. Bacon has too well obferved, that the length of difeafes, the fweets of life, the illufive flattery of hope, and the recommendations of the patient's officious friends, are fufficient reafons for the vileft and moft ignorant *quacks* being often preferred to the beft phyficians.

Friend, who at a very early time of life acquired the reputation of a great phyfician and a fine writer, adopted the fame reafoning, and met with the moft unjuft fate.—The reader will fee what is faid on this fubject by this phyfician, (who was fo defpifed by *empirics* and the *vulgar*, and fo much cherifhed by all refpectable people) in his letter to his friend Mead.—The efteem, fays he, in which *quacks* are held, is the reafon why men of true genius, who might have diftinguifhed themfelves in phyfic, have fought for reputation, by attaching themfelves to other fciences; and in thefe they have often excelled thofe who feemed to be particularly deftined by nature to this cultivation.—In good truth, they who look up only at glory and reputation, have furely good reafon for abandoning an art, in which the prejudices of the vulgar give as much to mediocrity as to the rareft and moft accomplifhed merit, and the practice of which is diftinguifhed by the public only in proportion to the boaftings of the practitioner.

The

The *quack* has a confiderable advantage over the regular practitioner.—If any one of his promifes become realized, he is applauded to the fkies; and if the patient finds himfelf deceived, he is obliged in honour to be filent, that he may not expofe himfelf to blame, for having confided himfelf to a *wretch* who gains much by deceit, as the number of fimple people is always the greateft.—Befides, this *daring man* rifks no lofs of reputation; becaufe, as it exifts only amongft ignorant people, the blame will always incline towards thofe who have liftened to him.—Men are fo fond of the marvellous, that the *quack* has, above all others, the power of making the vulgar relifh novelty.—The more abfurd his promifes are, the more he is attended to.—He applies a ftrange name to a medicine he has juft gathered at the entrance of the village, and then giving the detail of his miracles, this medicine is adopted as the cure of every infirmity.

BUT IS IT NOT UNACCOUNTABLE, THAT THE STATE SHOULD SUFFER THIS DESTRUCTIVE BREED? FOR SURELY THE PEOPLE, BLIND AND IGNORANT AS THEY ARE, OUGHT NOT TO BE ABANDONED TO THE PREY OF THESE IMPUDENT AND DANGEROUS MEN.—IF SOCIETY CLAIMS A RIGHT TO OPPOSE THE DESIGNS OF ANY INDIVIDUAL, WHO WISHES TO RENDER ANOTHER UNHAPPY, WHY SHOULD NOT SHE PRESERVE THE SAME PRIVILEGE, WHEN THE

SAFETY OF A GREATER NUMBER OF HER MEMBERS BECOMES CONCERNED?—IF SOCIETY HAS SUCH A RIGHT, SHE IS SURELY BLAMEABLE FOR NOT EXERCISING IT.—THE SOVEREIGN WILL ALWAYS BE DISPOSED TO INCLINE A FAVOURABLE EAR TO REPRESENTATIONS WHICH MAY BE MADE TO HIM ON THIS SUBJECT.—THE COLLEGES OF PHYSIC OUGHT TO UNITE IN THE REFORMATION OF THESE ABUSES, BY REPRESENTING THEM TO THE LEGISLATURE.

The life of a negro ſlave is valued at an hundred pounds, and if we calculate the deaths occaſioned by *quack medicines*, there is no difficulty to calculate the vaſt loſs to the community by theſe *legal murderers*;—I ſhould give them too fair a title to call them only *purſe-takers*.

THE SMALL ANNUAL SUM THESE *wretches* PAY FOR THEIR INDULGENCES * SURELY CAN BE NO COMPENSATION TO THE LOSS SUSTAINED BY THE DESTRUCTION OF THE LIVES OF SUCH A NUMBER OF THE COMMUNITY.—BESIDES, IT HAS BEEN BEFORE PROVED,† THAT *get money* IS NO EXCUSE FOR *mal-adminiſtration* IN ANY GOVERNMENT;

* The LICENCE is One Guinea.

† Vide POLITICAL EXTRACTS, Vol. II. and III. *which inveſtigates the adminiſtration of governments*, by the author of this work.

THIS

THIS IMMENSE EVIL OUGHT THEN IMMEDIATELY TO BE CHECKED BY A PATERNAL LEGISLATURE, AND REWARDS GIVEN FOR ANY NOBLE DISCOVERIES IN MEDICINE; JUST AS AN ADEQUATE RECOMPENCE FROM PARLIAMENT WAS FORMERLY BESTOWED UPON MRS. STEVENS FOR HER SOLVENT, AND HAS BEEN GIVEN TO SOME OTHERS, WHERE PROPER APPLICATION HAS BEEN MADE FOR EMINENT DISCOVERIES.

PRACTICAL

PRACTICAL OBSERVATIONS.

SECT. III.

OF MERCURY IN PUTRID FEVER.

As Dr. Crawford, brother to the late celebrated Dr. Adair Crawford, inventor of a moſt ingenious doctrine relative to animal heat, of whom we may juſtly ſay,

——— par nobile fratrum,

was returning to England from India, in the year 1770, on board the Earl of Middleſex, an epidemic fever broke out among the crew, which ſeemed to threaten an alarming mortality*. Thirty of the men were ſeized with the characteriſtic ſymptoms of this diſeaſe. Three of the unhappy ſufferers early periſhed. On each ſide the eye was now ſaddened with the deſpondence which was viſible in every countenance: and the ear was diſtracted with the groans and difficult reſpiration

* For an account of this fever, vide *An Eſſay on Fever, accompanied with a Diſeaſe of the Liver, hitherto but little known, though very frequent and fatal in warm Climates.*—Publiſhed by Kearſley.

of

of thofe who fuffered, or by the foreboding of fuch as had hitherto efcaped. Nor was the fituation of this compaffionate phyfician lefs lamentable than the reft. The uplifted eye implored for help in vain! He had no clue to conduct him in his prefent difficulty. But the man of fcience does not foon yield up to defpair. He inveftigates the hidden caufes of difeafe, and Nature in her bounty not unfrequently bleffes the laudable endeavour. Dr. Crawford opened one of the bodies of the dead, and had a demonftrative proof that the liver was the chief feat of the prefent difeafe. It was not only enlarged, but externally fhewed a florid appearance. Upon this difcovery he had inftant recourfe to bleeding and mercurial cathartics, and he obferved, that where the mercury produced falivation the recovery was more ftriking, and he therefore exhibited mercury alfo with this intention.

On the 20th of May this fever attacked John Mafon, a ftrong athletic failor. I ordered, fays Dr. Crawford, fixteen ounces of blood to be taken from him. The pulfe rofe immediately in fulnefs, and his refpiration became eafy. Three of the aperient pills (thefe were compofed of mercury, aloes, foap, and jalap) were adminiftered, and the fame quantity repeated in the evening, which produced a fufficient effect. Thefe were continued each day, fo that he had taken now about half a drachm of calomel. On the 25th, his

mouth

mouth was a good deal affected, and all uneasiness in breathing was instantly removed. On the 27th the salivation abated considerably, when his respiration became proportionably oppressed, he therefore returned to the use of the pills. On the 28th the salivary discharge was again abundant, and it is not a little remarkable, Dr. Crawford adds, "that as this increased, the difficulty of breathing, and all the other symptoms of the disease diminished." This observation led me, he adds, to keep up the spitting for a few days, at the same time care was taken to prevent it from being too copious*. On the 29th, 30th, 31st, the soreness of the mouth was the only disease, and this decreasing, the sailor was soon restored to sound health.

Dr. Wade, in the East-Indies, in the year 1791, adopted the plan of Dr. Crawford, and speaks equally favourably of the febrifuge action of mercury. His plan was to evacuate the intestinal canal, and if this failed of removing the fever, he then called into his aid mercury. Mercurial inunctions, says this able practitioner has been attended with very general success in the slow typhus fever, as also in the violent, acute, burning fever, which has been denominated by a variety

* When violent salivation came on, this able practitioner had recourse to opium. This often occasioned violent torment in the bowels, which was as instantly removed by juice of limes.

of

of appellations in the Weſt Indies, ſuch as yellow fever, black vomit, &c. as particular ſymptoms ſeemed moſt prevalent to each practitioner. This fever, with every ſymptom by which Doctor Lind and other authors have characteriſed it, has often occurred with us. In ſome unfortunate caſes, the diſſections exhibited proofs of a violent affection of the liver. After this diſcovery, mercury, exhibited ſo as to affect the mouth as ſoon as poſſible, with occaſional laxatives, proved uniformly ſucceſsful. In this inſtance, the diſeaſe is ſo quick in its progreſs to deſtruction, that the exhibition of mercurials ſhould be equally rapid and vigorous. But the happy effects of a more gradual courſe of mercury are juſt as ſtriking in thoſe ſlow fevers, which would be called nervous, by European phyſicians, but which in our country would be eſteemed the conſequence of neglect or mal-treatment of preceding fevers in the continued, remittent, or intermittent forms. It will generally be found that theſe chronic fevers, whether they afflict the conſtitution without any ſenſible periods of abſence, or only return in occaſional relapſes of more ſeverity, will yield equally to the operation of mercury on the ſecretions, with the intervention of purgatives; they will alſo be found, during their firſt attack, to have reſiſted the utmoſt efficacy of the bark, and other medicines in common uſe. It may be neceſ-

ſary,

ſary, however, to ſuggeſt a caution to the practitioner, that he ſhould not think himſelf diſappointed, if the operation of mercurials do not always appear to be attended with deciſive effects, though the ſalivary glands ſhould be conſiderably affected; for the ultimate benefit from this courſe may not be very evident for ſometime after its ceſſation; at laſt, however, returning health will convince the practitioner of the ſucceſs of his efforts. During the treatment, the reſtoration of the ſecretions of the bowels, particularly of the liver, is ſometimes attended with ſuch apparently diſagreeable ſymptoms, that the practitioner may be led to form an unfavourable judgment of the plan. The formation, or the diſcharge of bile, which has been ſuppreſſed, deficient, or irregular for a long time, will not unfrequently be attended with ſevere ſymptoms of dyſentery. To a perſon of experience theſe will afford the moſt favourable omen of the ultimate ſucceſs of his remedies. Nothing, however, aſſiſts the ſalutary agency of mercury with ſuch power, as opium, and frequent changes of air, with a diet of mild vegetables and water only.

Dr. Wade adduces ſeveral caſes in confirmation of this practice.

The next phyſician who adopted this practice was Dr. Chiſholm, who had been reſident in the Eaſt Indies, and afterwards fixed himſelf at Grenada. He ſpeaks of the exhibition of mercury in the

ſtrongeſt

ſtrongeſt terms. The way in which this phyſician was led to the application of mercury, was from exactly the ſame cauſe as induced Dr. Crawford. I was encouraged, ſays Dr. Chiſholm, to this practice, by the appearances I obſerved in the two firſt bodies I opened. The liver was evidently the moſt diſeaſed part, and I knew that mercury was a ſpecific in all affections of that organ; beſides it was, at all events, better to try a doubtful one than remedies of no efficacy. I accordingly adminiſtered calomel, either combined with nitre, camphor, and the antimonial powder, or in the form of a pill. After many trials of both, I preferred the laſt, chiefly on account of the nitre and camphor diſagreeing with the ſtomach. The pill was generally compoſed of five grains of calomel, two of the antimonial powder, and one of opium; and repeated four times in the twelve hours, or eight in the twenty-four hours. I confeſs it was with no ſmall degree of anxiety I ventured on this practice, unwarranted by any other authority than diſſection and my own obſervation*; but its ſucceſs juſtified my temerity. If ſalivation was ſpeedily raiſed, the danger was removed, and the patient recovered. But in order to effect this, it was frequently neceſſary to increaſe the quantity and number of the doſes; and, in ſeve-

* Dr. Crawford had long before recommended this practice, and was reſident in India at the ſame time with Dr. Chiſholm.

ral inftances, I have pufhed it to an almoft incredible length, with aftonifhing fuccefs. In one cafe in particular, a gunner of the royal artillery, named Thomas Smith, in whom figns of recovery did not appear till the twenty-firft day, fully 400 grains of calomel were given before the falivary glands were affected.

For fometime the queftion refpecting the propriety and impropriety of this practice was much agitated among my fellow-practitioners. The principal arguments offered againft it were founded on its novelty; its militating againft the received theory of the nature of malignant and peftilential fevers; and on the very limited duration of the difeafe, which, it was faid, did not admit the adminiftration of a quantity large enough to excite falivation, whereby, even was mercury ufeful, time fufficient was not given it to act. To thefe I had to obferve, that the mere novelty of a practice was no fufficient objection to it. That we were taught, by frequent experience, that medicines not long fince confidered as dangerous, and even poifonous, have been proved to be among the moft efficacious in certain difeafes: in the prefent inftance, it was evident that there was a change brought about in the fyftem by it, when pufhed to falivation, which obviated inflammatory diathefis, without weakening, in a dangerous degree, the powers of the living principle: that this effect was illuftrated by what has

has constantly and uniformly happened to those who have been cured of hepatitis by salivation, their strength having been comparatively increased after the mercury had ceased to act: that the nature of pestilential fevers was by no means generally well understood: that a remarkable peculiarity appeared during the inflammatory stage of pestilential fever, in the inflammation seizing particular organs; in its often affecting them without any external signs of such affection; in its extraordinary tendency to gangrene; in its aptitude to run into the putrescent state, when much debility was induced; in its exciting an increased afflux of blood to the brain, whereby an uncommon exhalation of serous fluid from the extremities of the arteries of that organ taking place, compression ensued, of which the dilatation of the pupils of the eyes was an incontestable proof: that as the fever was new, it could only be from what has been found useful in disorders of a nature nearly similar, we could make our selection of the means of cure; that the consideration of certain states of inflammation of the liver; of the confluent small-pox; and of the hydrocephalus internus; led us to give the preference to mercury: that the medical maxim "de quo dubitare in ejusmodi re non oportet: satius est enim anceps auxilium experiri, quam nullum,"* of try-

* Celsi Medicina, lib. II. cap. 10.

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ing even a doubtful aſſiſtance, ſhould always regulate our practice in dangerous and dubious caſes: that however ſhort the time might be, we found ſalivation was often induced early enough to ſave the patient; and that although, in certain ſtates of the body, and in other climates, much difficulty might ariſe from the tardy action of mercury; yet that, in every ſpecies of inflammation, and perhaps more eſpecially thoſe, the tendency of which to terminate in gangrene is great, and in a hot climate, no ſuch difficulty exiſted in general, unleſs the medicine were to act on the inteſtinal canal, and conſequently paſs off without entering into the circulating maſs. Theſe obſervations had their due weight on many; *but the powerful influence of prejudice operating with all its baneful force on others, precluded conviction*; although they had the mortifying experience of the fatal tendency of the diſeaſe treated in their way. To multiply arguments and proofs drawn from analogy would be uſeleſs; thoſe already offered are ſurely ſufficient to juſtify even the *empirical* adminiſtration of mercury in the malignant peſtilential fever, as it appeared here; wherein the danger was ſo iminent, when recourſe was not had to a bold practice. I ſhall only add a few words on the cauſe of the ſucceſsful treatment of the ſick of the 45th regiment. I might remark, that the ſmall number of deaths in that regiment aroſe from the mode of treatment adopted by Mr. White, a very ingenious young gentleman,

tleman, who attended the ſick in the abſence of the ſurgeon. The diſeaſe being new, its ſymptoms remarkably inſidious, and its fatal tendency very uncommon, Mr. White did me the honour to conſult me, and requeſt my opinion and advice. I mentioned to him the difficulties I had for ſometime laboured under, the reſult of my obſervations, and the treatment I found alone uſeful in the more violent caſes; and recommended it to him as the moſt likely to be ſucceſsful among his patients. He immediately adopted it, and has ſince frequently declared to me, that he did not loſe afterwards one man, who had taken a ſufficient quantity of calomel to excite ſalivation. *Mr. White and myſelf were ſtriking inſtances of the efficacy of the practice; we were both infected, were very dangerouſly ill, and cured by exciting ſalivation.*

In every caſe wherein *ſalivation* took place, little farther was required than the plentiful uſe of nouriſhing ſimple food, and wines. But when the mercury had not this effect, or when its action was ſo tardy as to give room for the moſt ſerious apprehenſions of the event, it was neceſſary to have recourſe to the bark. This medicine, in remittent bilious fevers, is ſeldom uncommonly diſguſting to the patient; for although the ſtomach is very often irritable in theſe fevers, and conſequently incapable of retaining the bark, yet the patient ſeldom expreſſes any diſlike to ſwallowing it. In putrid fever, however, this medicine

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is extremely diſagreeable to the patient, and the irritability of the ſtomach at the period when it became neceſſary is ſo great, as very frequently to baffle every attempt to render it retentive. Nature, therefore, ſeemed to point out the impropriety of adminiſtering the bark, by not only rendering the palate abhorrent to it, but exciting ſuch a degree of ſpaſm in the ſtomach, as made that organ totally unequal to even the reception of it. Hence we are not to be ſurpriſed that the bark did ſo little in this fever. In fact, except in the third, and part of the ſecond ſtage, it was not a medicine to be depended on; and even in theſe, the ſucceſs was obtained chiefly by the agency of other medicines in reſtoring ſome degree of tone to the ſtomach.

Before I conclude this part of the taſk I have impoſed on myſelf, I cannot help obſerving, that as the majority of the moſt uſeful part of ſociety are daily expoſed to the ravages of one of the moſt deſtructive calamities mankind are ſubject to, we have reaſon to conſider ourſelves as extremely fortunate in poſſeſſing a remedy which, under certain circumſtances, may be depended on in the cure of contagious fever. There is, no doubt, the influence of old habits, and medical authority to be combated, ere the practice I have recommended can be generally adopted; but it is to be hoped that theſe will yield to facts and experience, the phyſician's only certain guides in the treatment of diſeaſe.

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The following year this peſtilential fever broke out afreſh. On the re-appearance of this diſeaſe, I was determined, ſays Dr. Chiſholm, to give the calomel earlier, and in much greater quantity than the preceding year. Accordingly, inſtead of preceding the adminiſtration of this excellent remedy with the uſual evacuating medicines, I began with it, and continued it without the interpoſition of any other, till ſalivation took place. *The ſucceſs attending this practice exceeded my moſt ſanguine expectation; ſo great indeed was it, that I did not loſe a ſingle patient in whoſe caſe it was puſhed to the full extent.* My practice will, no doubt, by many be conſidered as unwarrantably bold; but as its *wonderful ſucceſs* has been now experienced by ſeveral other practitioners, who can bear teſtimony to it, I feel not the ſmalleſt heſitation in recommending it with all the fervor which an earneſt wiſh to ſave the lives of men, and the fulleſt conviction of its power, can give riſe to.

My preſent mode of uſing the calomel, is to give ten grains to an adult patient as ſoon as poſſible after I ſee him. This generally acts as an aperient in the degree required, about an hour or two after it is given. At the end of three hours I repeat the ſame doſe without opium, if the firſt has not purged more than twice. At the end of three hours more, the ſame quantity is given, adding opium or not, as the preceding doſes have acted. In this manner ten grains are given every three hours till the ſalivary glands become

come affected; which generally happens in less than twenty-four hours from the commencement of the treatment. The effect of the medicine given in this manner, may be perceived after the third dose in general; *the patient becoming calmer, less restless, less anxious; his skin being softer, and possessed of an agreeable heat; the stomach being perfectly retentive, however irritable it might have been before; and the eyes recovering their former lustre and sensibility.* When, at length, *salivation* takes place, the patient is left *free from disease*, with a moderate warm moisture on his skin; and very soon after, signs of returning health are indicated by calls for food, &c. The recovery of strength is proportionally rapid to that from disease; nor is it at all necessary to have recourse to *bark*, or any other medicine whatsoever: a circumstance truly gratifying both to the patient and physician, in a disease wherein Nature revolts at the very idea of it. In fact, *calomel* is the only medicine, except the occasional addition of opium, I have latterly given; of course the practice has been as *simple* as it has been *efficacious*: an additional encouragement to the unhappy sufferer, and to those whose situation may render them liable to receive the pestilential infection.

On my way to Europe, in the month of July last, I was detained, says Dr. Chisholm, a month at St. Christopher's, waiting for convoy. During that time, I had frequent opportunities of conversing on the malignant pestilential fever with

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fome ingenious and eminent practitioners of that ifland; who informed me, that the want of fuccefs they experienced in the various modes of treatment they adopted during the prevalence of that epidemic, in the latter months of 1793, made them dread a fecond vifit of it as the greateft calamity that could befal the colony. At this time the arrival of a fhip at Baffeterre from Martinico, with the malignant peftilential fever on board, gave me an opportunity of difplaying the efficacy of the mercurial treatment; which had never before been thought or heard of there. Dr. Armftrong, who to the moft pleafing manners of a gentleman adds uncommon medical ability, and the candor which ufually accompanies both, attended the fick on board this veffel. The firft patient was a ftrong, robuft man, fometime before arrived from Europe, and who had the further difadvantage of having been three days ill before medical affiftance could be called in. The worft fymptoms had already appeared; fuch as continual vomiting, coma, and the delirium peculiar to the difeafe. The Doctor, by my advice, began with ten grains of calomel, and repeated it without opium, as it did not purge, every three hours. To *his aftonifhment*, and *contrary to the prognoftic of the other medical gentlemen who faw the cafe, a falivation coming on before the expiration of twenty-four hours, the ufual figns of returning health immediately after fucceeded.*

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Since my arrival in England, I have had peculiar ſatisfaction in finding that a treatment nearly ſimilar to the above had been adopted with great ſucceſs in the malignant peſtilential fever, which ſo fatally prevailed at Philadelphia during the autumn of 1793. Dr. Ruſh's medical talents and merit are too well known and too generally acknowledged to require the feeble efforts of my pen to extol them. If any thing, however, could add to the excellence of this gentleman's character, it muſt be his benevolent exertion, and unwearied perſeverance during the exiſtence of this dreadful calamity, in relieving his helpleſs and afflicted fellow-citizens, and in purſuing the mercurial mode of treatment, with the weight of prejudice and malignity in oppoſition to him. Such fortitude is rarely met with in the medical profeſſion; and when it is, it muſt ſecure our admiration and reſpect. Whether the diſeaſe deſcribed by Dr. Ruſh, under the name of the "Bilious Remitting Yellow Fever," was produced in the manner the malignant peſtilential fever was in Grenada, is a matter of no great importance; it is ſufficient to know, that the diſeaſes were exactly the ſame*; and that a ſimilar treatment proved ſucceſsful in both.

During

* Fevers have had various appellations, as the nervous fever, the jail fever, the hoſpital fever, the ſhip fever, the petechial fever, the putrid fever, and the malignant fever, yellow fever, &c. The firſt appellation it receives from its attacking the ſenſorium

During the courſe of my extenſive practice, ſays Dr. Ruſh, the exhibition of calomel purges produces frequently *ſalivation*. By this accidental effect of mercury,

ſorium and nerves more immediately and more violently than other fevers generally do: the ſecond, third, and fourth, from its being apt to ariſe in jails, hoſpitals, and ſhips, where numbers of men are often obliged to be crowded together, and where ſufficient care is not always taken to have them well ventilated and cleanſed; the fifth from certain ſpots which ſometimes appear on the ſkin of patients labouring under this diſeaſe; the ſixth, from a putrid ſtate or tendency, ſuppoſed to take place in the blood and juices; and the ſeventh, from the dangerous nature and malignity of the diſeaſe, and the laſt, from a yellow ſuffuſion over the ſkin. Of all thoſe epithets, that of putrid, which is by much the moſt univerſal, ſeems, in the eyes of ſome, the moſt improper, as it implies that the ſame change takes place in the blood during this fever, that happens to animal ſubſtances after death, when they are in a ſtate of putrefaction. Some phyſiologiſts have imagined that this putreſcency is the cauſe, others that is the effect of the fever now in queſtion. But either as the cauſe or effect, the eſtabliſhed opinion was, that the blood acquires a ſtate of putreſcency, or becomes quite putrid during this fever. Medical opinions, which are deep-rooted by time, and ſanctified by authority, are received at laſt as unqueſtionable truths, which it would be folly to doubt, and preſumption to inveſtigate—the bulk of mankind are too timid for the one, and too lazy for the other. But there are ſome who are ſo much ſtruck with the number of abſurdities which have been handed down to us through ages, that their minds ſeem little diſpoſed to adopt any opinion merely on account of its antiquity. Such men endeavour to bring all opinions to the teſt of experiment and ſtrict obſervation; and if they are found not to ſtand thoſe teſts, reject them from their creed without further ceremony, although they ſhould be ſanctified by all the medical apoſtles who have written ſince the days of Hippocrates.

Who would not be alarmed on being informed that ſuch a formidable

mercury, I was taught to adminifter it with other views than merely to cleanfe the bowels, and with a fuccefs which added much to my confidence in the power that this medicine has over putrid fever. I began by prefcribing the calomel in fmall dofes, at fhort intervals, and afterwards I directed large quantities of the ointment to be rubbed upon the limbs. The effects of it, in every cafe where the mouth was affected, was very falutary and fpeedy, and even feveral perfons appeared to be benefited by the mercury introduced in the fyftem in the form of an ointment, where it did not produce falivation. In the month of October, adds Dr. Rufh, I attended a gentleman in a bilious fever, which

formidable band, fuch a febrium cohors as the following, had invaded the earth—Nova febrium terris incubuit cohors: febris inflammatoria, fcorbutica, foporofa, putrida, nervofa, typhus petechialis, flava, fudatoria, colliquitiva, ardens, hectica, cephalalgica, bilofa, eryfipelacea, fynocha, fynochus, paludofa, verminofa, maligna, &c. &c. &c. To lay hold of the occafional fymptoms which arife from the differences of conftitution and other circumftances, and erect them into new difeafes with terrifying names, burdens the memory, and tends to darken rather than elucidate the fubject. To give terms inftead of ideas, is a practice not confined to phyficians: from long eftablifhed cuftom, however, fuch counters feem to pafs more currently, and are oftener received in exchange for gold, from them than from others. Thofe who are folicitous to be thought profound, do not always wifh to be intelligible; they gain their purpofe more effectually without it. My chief aim, on the prefent occafion, is to be ufeful. I have endeavoured to be underftood, and have, therefore, included all contagious fevers under the fame denomination.

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ended in many of the ſymptoms of a typhus mitior. In the loweſt ſtate of his fever, he complained of a pain in his right ſide, for which I ordered half an ounce of mercurial ointment to be rubbed on the part affected. The next day he complained of a ſore mouth, and in the courſe of four and twenty hours, he was in a moderate ſalivation. From this time his pulſe became full and ſlow, and his ſkin moiſt. His ſleep and appetite ſuddenly returned, and in a day or two he was out of danger. The ſecond precedent for a ſalivation in a fever, which occurred to me, was in Dr. Haller's ſhort account of the works of Dr. Cramer*, and which I had a year before copied into my note book. The practice was, moreover, juſtified in point of ſafety, as well as the probability of ſucceſs, by the accounts which Dr. Clark has lately given of the effects of a ſalivation in the dyſentery†. I began by preſcribing the calomel in ſmall doſes, at ſhort intervals, and afterwards I directed large quantities of the ointment to be rubbed upon the limbs. The effects of it in every caſe in which it affected the mouth, were ſalutary. Dr. Woodhouſe improved upon my method of exciting the ſalivation, by rubbing the gums with calomel, in the manner directed by Mr. Clare. It was more ſpeedy in its opera-

* Bibliotheca Medicinæ Practicæ, vol. iii. p. 491.

† Diſeaſes of long voyages to Hot Climates, vol. ii. p. 334.

tion

tion in this way than in any other, and equally effectual. Several perfons appeared to be benefited by the mercury introduced into the fyftem in the form of an ointment, where it did not produce a falivation. Among thefe were the Rev. Dr. Blackwell, and Mr. John Davis.

The practice, however, of ufing mercury in putrid fever, exifted prior to thefe gentlemen, as appears from a communication to the philanthropic Dr. Beddoes, by Mr. Hammic, on the practice of the late Dr. Geach, phyfician to the Plymouth Naval Hofpital, in low fever.

I do myfelf the honour of communicating to you the following fketch of treatment purfued by my late learned and truly invaluable friend, Dr. Geach, for feveral years paft, in the typhus, low, nervous, contagious, or putrid fever, (as it is generally called,) with great fuccefs; an account of which treatment, had he fortunately lived, it was his intention to have publifhed the enfuing fummer. The reafon of its being prevented we muft all moft ferioufly lament; for a treatife iffuing from his pen, on the beneficial effects of calomel and antimony in this difeafe, would, no doubt, have been fo amply ftored with facts and obfervations, as to have rouzed the univerfal attention of medical men to the fubject.

The Doctor ufed candidly to confefs, that he was led to this practice at firft, about thirty years fince, whilft attending the crew of a large Ruffian

fhip,

ſhip, which had been driven into Plymouth in the greateſt diſtreſs. After encountering ſeveral gales of wind, her people, from great fatigue and uncommon exertions, had become very ſickly, and the typhus fever raged with great violence amongſt them, accompanied with ſymptoms of great malignity. He then obſerved that the only men who eſcaped the contagion on board, were men under the influence of mercury. This fact made great impreſſion on him, and ever ſince that time he had been accuſtomed to give mercury in ſuch fevers, but not with ſuch freedom till the laſt ſeven years of his practice, and for the laſt five years whilſt I had the honour of being an aſſiſtant ſurgeon placed under him in Plymouth hoſpital. I have ſeen him preſcribe it, and have preſcribed it myſelf under his own immediate eye and controul, whenever any perſon was ſeized with this fever in the ſurgical wards of the hoſpital; and as I always attended him during that time in his viſits of the wards, the number of caſes has been conſiderable: and I have alſo ſeen it very ſucceſsfully adminiſtered in ſome very alarming caſes of typhus gravior among the poorer claſs of inhabitants of Plymouth Dock, and Stonehouſe, whom humanity induced him to viſit in thoſe places, and to whom he had the goodneſs to conduct me, in order to be thoroughly convinced of the efficacy of this remedy, and thereby induced, from actual obſervation, to give this medicine

medicine with confidence in my future practice; for the doctor thought this plan only wanted publicity to obtain a preference to thofe ufually employed in fuch difeafes.

The following is only an imperfect outline of the plan, but even as fuch, I truft it may not be deemed unworthy of your perufal, imperfect, as I have not had accefs to his notes and obfervations, but at the fame time I pledge myfelf for its faithfulnefs.

Whenever the doctor was called to a perfon labouring under fymptoms of typhus fever (if within two or three days of its firft attack) he ufed conftantly to prefcribe fourteen or fixteen grains of ipecacuanha, affifting its operation with chamomile tea; three hours after the ceffation of the vomiting (if the patient was delicate), a bolus of five grains of calomel, with a fcruple of rhubarb was given, but if the patient was of a ftrong habit, a fcruple of jalap, with eight or ten grains of calomel, were adminiftered. If evacuations were not thus produced within eight or ten hours, caftor oil, or fome other laxative, were given occafionally till the defired effect had taken place. The windows of the room were opened in fuch a manner, that the room was kept perfectly cold, without fubjecting the patient to a current of air; the bed-curtains nearly all withdrawn, fo that free circulation was admitted, even in winter; taking care to have (where it could

could be procured) frequent changes of linen. After the ſtools, the following boluſes were immediately ordered:—calomel eight grains, pulv. antimonial. four grains, conſ. cynoſb. q. ſ. ut f. bol. to be taken every ſix hours when the ſymptoms were ſlight, but when the caſe was very urgent, or he had not been called in till the fever had made ſome progreſs, then the above quantity was given every four, three, or even every two hours, permitting weak lemonade, tamarind, or cream of tartar water to be taken for the common drink. If the fever ſtill went on, and the patient's ſtrength became exhauſted, a little port wine, diluted with water, was allowed; uſual quantity half a pint, ſeldom or never exceeding one pint in twenty-four hours.

To any perſon unaccuſtomed to give theſe boluſes, diarrhœa, ptyaliſm, or vomiting, would naturally ſuggeſt themſelves as the inevitable conſequences in almoſt every caſe of their exhibition; but the fact, in a multiplicity of inſtances, directly proves the reverſe; for in general we were obliged to order rhubarb, with kali ppt. or an electuary, made of equal parts of cream of tartar and conſerv. cynoſb. Ptyaliſm has ſeldom, as I have before ſaid, followed their uſe, notwithſtanding they have been continued to ſome patients every three hours, for a length of time: *but when they did affect the ſalivary glands, the cure was always certain and more expeditious after that*

 event,

event, appearing to check immediately the progreſs of the diſorder.

When diarrhœa ſupervened, the doctor was cautious how he checked that diſcharge, never attempting it, unleſs the patient was very feeble or low; for in ſeveral inſtances where numerous ſtools have been procured, the patients have found themſelves relieved of a delirium which had been on them for three or four days before, but when the diarrhœa continued profuſe, exhauſting the patient's ſtrength, then means were employed for its removal, commonly a ſcruple of conſ. opiat. or an ounce of poppy ſyrup ſufficed: if they did not, half a grain, or a grain of opium was combined with the calomel and antimony, but ſeldom were we neceſſitated to ſeek the aſſiſtance of opium, and in no other way did the doctor ever adminiſter opium in this diſeaſe.

Vomiting, when excited, was commonly allayed by the ſaline mixture in the ſtate of effervefence; when this ſymptom much haraſſed the patient, the antimonial powder was reduced from four to two grains: this was the ſyſtem purſued throughout the whole of the ſtages of this fever, *never adminiſtering any other medicine*, unleſs any extraordinary occurrence took place; therefore the whole dependance for a cure may be clearly perceived to be entruſted to the calomel and antimony.

In ſome few caſes, when delirium was great, and the head much affected, a bliſter was applied

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to the nape of the neck; as ſoon as ſigns of amendment appeared, the boluſes were diſcontinued, and not till then; and a decoction of bark, with balſ. tolu, was given; but the bark, in ſubſtance, was never given by the doctor; for the bad effects of it in this form, when exhibited to weak ſtomachs, far outweighed, in his opinion, any good it ever produced. It is well worthy of remark, that in all thoſe caſes where the ſymptoms were very urgent, and the putrid appearances more apparent, that there the boluſes* ſcarcely ever were obſerved either to ruffle the bowels or ſtomach.

Now, Sir, after the above ſtatement, it may be expected that there was ſome theory to defend this innovation of practice, and that I ought, after troubling you in this manner, to attempt accounting for the modus operandi of this medicine, which, in a variety of inſtances, I freely confeſs myſelf incompetent to accompliſh, and even were I capable, unwilling; for in theory we may be overthrown in various ways, but in the above account we never can; for who can overthrow us *when truth is our foundation?* Feel aſſured, Sir, this was the mode of practice purſued by Dr. Geach in thoſe caſes, not only in this hoſpital as firſt ſurgeon, but alſo in a moſt extenſive range of

* We would adviſe beginning with one or two grains of *calomel*, thinking that the doſe mentioned by the author is too large, or it is, probably, a miſtake of the preſs.

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private practice, and of course nothing but the succefs attending it, could have induced him to perfevere in a treatment fo widely different from that purfued by other practitioners.

I beg leave to ftate, that my father, about five years fince (in the abfence of the phyfician), at the recommendation of Dr. Geach, purfued the above plan, with very great fuccefs, in a number of cafes of typhus gravior, received into this hofpital from his Majefty's fhip Squirrel, on board of which fhip the fever had been fo violent, that the Board of Admiralty gave an order for deftroying the bedding and clothes of the men, fupplying them anew at Government's expence, and alfo, that my friend, Mr. John Fryer, vifiting Affiftant Difpenfer at this hofpital, who, when a fever of the worft fpecies of typhus was raging among the French prifoners confined at Mill-Prifon, Plymouth, about three years fince, and at a time when moft of the affiftants there employed were confined by the fever, nobly and humanely volunteered his fervices, found that calomel and antimony triumphed over this common foe to all. Of their teftimonies, it was the doctor's intention to have availed himfelf in the purpofed pamphlet *.

* We are happy to announce, that it is in the prefs, the M. S. having been revifed by Mr. Knighton, furgeon, for that purpofe.

In

In Dr. Trotter's Medicina Nautica, there is a very interefting cure of yellow fever treated with calomel. I gave, fays Mr. Downey, furgeon of the Dædalus, calomel to a failor who was feized with the yellow fever, and as the patient paffed over three days without any very dangerous fymptoms fupervening, I perfifted in its ufe till 150 grains were taken. No other effect followed than the pulfe becoming more foft and flow, which before had been quick and contracted: the fkin alfo, which, previous to its ufe, had been hot and dry, became more foft; but the patient lay in a ftate little better than comatofe three days. He was removed on fhore, where he recovered, a plentiful falivation taking place as the fymptoms of fever declined.

Upon the whole, the weight of evidence in favour of the mercurial treatment brought forwards by Dr. Clark, Dr. Rufh, Dr. Wade, Dr. Geach, and particularly Dr. Chifholm, in circumftances nearly fimilar, muft furely imprefs every mind, even thofe moft influenced by prejudice, with a conviction not only of its utility, but of its certainty, if judicioufly conducted.

In India, in North America, and the Weft India iflands, medical gentlemen, totally unconnected with each other, have recurred to the fame practice, and hefitate not to declare to the public, that the event has been uniformly the fame. Why fhould not peftilential infection have

its

its antidote, as well as other poiſons equally fatal? "They have narrow conceptions, not only of the "Divine Goodneſs, but of the gradual progreſs of "human knowledge, who ſuppoſe that all peſti-"lential diſeaſes ſhall not, like the ſmall-pox, "ſooner or later ceaſe to be the ſcourge and terror "of mankind,*" ſays Dr. Ruſh; who adds, "let "the knowledge of this ſalutary innovation in "medicine be generally diffuſed; let the confi-"dence it merits be placed in it; let the deſtruc-"tive dogmata of theoriſts be diſcarded, and no "more will Peſtilential Fevers be numbered "among the wideſt outlets of human life†."

* Ruſh's Account of the Bilious Yellow Fever, p. 327. A work of the greateſt merit, and filled with the moſt benevolent views towards mankind.

† Ibid, p. 329.

PRACTICAL OBSERVATIONS.

SECT. IV.

OF NITRE IN PUTRID FEVER.

SINCE the difcovery, that mercurial oxyds (mercury combined with OXYGEN) is of great efficacy in the cure of putrid fever, another remedy has been much recommended by Dr. Wood, of Newcaftle; namely, NITRE.

From the accurate obfervations which have been lately made, fays this ingenious phyfician, on the effects of VITAL AIR on the blood, both in the ftate of circulation, and when drawn from a vein, and allowed to cool; from the difference of colour of the returning blood with that which has juft paffed through the lungs; and from our knowledge, that the red globules are oxydes; and from the fimilar appearance which the blood, in a perfon labouring under typhus, has with the returning venous blood; and from the anxiety of refpiration, which they who labour under typhus fever always difcover,—we can have little doubt, I think, for fuppofing that the deficiency of OXYGEN is the caufe of the fymptoms of typhus, the

the principal of which are, besides those above-mentioned, universal debility, and a rapid tendency to a putrescent state. Hence we may conclude, that OXYGEN is the general and only corrector of this state, that it is the grand antiseptic of nature, and therefore, with the decrease of OXYGEN, will increase the tendency to putrefaction, and with the increase of the tendency to putrefaction, will the *irritability* be exhausted, and symptoms of *debility*, in both body and mind, be progressively evident.

The proximate cause of typhus fever can therefore only be removed, as must appear from what has preceded, by the application of OXYGEN in a sufficient quantity to correct this deficiency, and to restore the state of equilibrium. OXYGEN taken into the stomach in the combined state of many different *acids*, may answer this intention; but in the state of *nitre*, it seems to me the most powerful form of exhibiting it; the process for obtaining OXYGEN in the state of *gas*, in order to throw it into the system by the lungs, is not only tedious but difficult. The happy period in which this can be accomplished is, however, at last arrived. In the state, therefore, of combination with *nitre*, it appears to me at present the most effectual mode of throwing it into the system. I have lately, continues Dr. Wood, exhibited *nitre* to more than fifty patients labouring under typhus; many of whom, when I saw

them,

them, had all the ſymptoms of this diſeaſe in a moſt violent degree. I did not give any previous antimonial; but I exhibited immediately the ſolution of *nitre*. The formula uſually employed was,

R. Nitri purificati, dr. 1½
Aq. diſtillatæ, unc. 7
Solve ſalem, et adde ſyr. ſacchari albi, unc. 1
Tincturæ lavendulæ comp. dr. 2.
F. Miſt. cap. una vel ducæ unciæ, ſecunda, vel tertia, quaque horâ.

That is,

Take of purified nitre, one drachm and a half
Common water, ſeven ounces
Diſſolve the ſalt, and add ſimple ſyrup, an ounce
Compound ſpirit of lavendar, two ounces.
For a mixture—Take one or two ounces every ſecond or third hour.

Dr. Thornton has tried to improve this mixture, by adding the juice of lemon inſtead of the diſtilled water, which neutralizes the pot-aſh, and encreaſes the oxygenous virtues of the mixture.

In ſome of the patients, the pulſe, which was from 100 to 130, was diminiſhed in frequency, and increaſed in ſtrength, before the expiration of the firſt 24 hours; the change, indeed, was often ſo great and ſudden, that I could ſcarcely

credit

credit my own ſenſes, until repeated experience ſtampt the firmeſt conviction upon my mind.'

Previous to the practice which I now purſue, adds Dr. Wood, I never viſited in typhus, without experiencing ſome of thoſe feelings which the phyſician is obliged to ſuffer, who expects an unſucceſsful iſſue; but now I have no fears, and I truſt that one of the moſt crowded avenues to the grave is at length cloſed; and judging, from the rapid progreſs acquired in the knowledge of philoſophy and medicine within a very few late years, I may venture to predict, that by ſimilar attempts, every diſeaſe, whoſe nature is at preſent obſcure, will be at laſt clearly explained, and the profeſſors of medicine be finally in poſſeſſion of the *ne plus ultra* of their ſcience*.

* Vide Wood on Stimuli, with a view of explaining the cauſe and treatment of putrid fever, a work which, for an early diſplay of ingenuity claims the higheſt praiſe.

SECT.

SECT. V.

OF ACIDS IN PUTRID FEVER.

Linnæus remarks, that the Author of Nature has wifely difpofed our taftes according to the food beft adapted for our nature. Nor is it, fays he, lefs worthy of admiration, that our tafte changes with difeafe, thus in a putrid fever the patient cannot endure the fmell or tafte of meat, but at this time *acids* are highly agreeable.

Wherever climate produces immoderate heat, benevolent Nature has taken care to relieve its parched inhabitants with fruits or juices adapted to their fituation. The people of Spain and Portugal, of Turkey, and Afia in general, live on grapes, peaches, nectarines, figs, melons, and rice. Thofe who live within the tropics have their woods, or groves, filled with orange, lemon, citron, and other delicate fruits. As they approach nearer the line, they have alfo pine-apples, chaddocks, and cocoa-nuts. On fuch they live in health, and by fuch they recover when fick. What might we not learn from them in dieting our fick? Nature too points the way. A man in a fever pants after every thing that can quench his thirft; and when oranges, ripe fruits,

or currant jellies, are craved by his feelings, and ſwallowed with delight, how muſt he be oppreſſed with Raleigh's Cordial Confection.

In former times the greateſt attention was paid to every thing that ſeemed to relieve or offend the ſick. The old phyſicians obſerved, with particular care, what nature craved, and found, that while foods, eſpecially animal ſubſtances, were commonly diſreliſhed, and often abhorred, drinks were greedily deſired; and that thoſe of the ſour and aceſcent kind only appeaſed the patient's longing. The ancients took the hint, and contrived ſuch drinks. Accordingly oxymel was a principal febrifuge with Hippocrates; ripe fruits were recommended by Aræteus and Trallian; and ſo long ago as the tenth century, Rhazes gave acids to prevent and cure the plague.

The juices of citron and ſorrel, ſays Senertus, reſiſt putrefaction, peculiarly ſtrengthen the heart, correct the feveriſh habit, and have aperient powers at the ſame time. Van Swieten boaſts that the juice of ripe fruits requires no preparation, extinguiſhes thirſt, tempers heat, opens the belly and urinary paſſages, and furniſhes the moſt exquiſite ſolace to a ſtomach oppreſſed with putrid bile. Of his maſter, Boerhaave, we are told, that in a ſtubborn putrid caſe he ordered, with ſucceſs, ten pounds of cherries daily. One of the ableſt phyſicians of this century has obſerved, that it is a vulgar error to ſuppoſe diſeaſes are

made

made more violent, or more frequent, by an intemperate uſe of fruit. To add one quotation more from the beſt writer we know upon bilious diſeaſes, “ Small draughts of barley water, with rob of elder or currants, ſyrup of lemons and raſpberries, not forgetting ripe fruits, mulberries, ſtrawberries, grapes, cherries, pine-apples, are excellent ; for the virtues of acids are ſuch, as to correct all putrefaction, to reſolve by their detergent qualities all bilious concretion, to favour and promote all the ſecretions ; and, while they do not relax the ſolids too much, they refreſh the ſpirits by their fragrance.” I may add, that the juice of ſtrawberries and currants extracted, with water, makes an admirable drink, as the fruits themſelves make an excellent food along with bread ; and we have the rob of the laſt in perfection and plenty all the year round, to ſupply the place of citron or lemon-juice.

Decoctions or infuſions of frumentaceous ſubſtances, ſeaſoned with ſea ſalt, cream of tartar drink, thin wines, juice of lemons, and plain vinegar, do all contribute largely to an immediate, and perhaps a laſting change of a corrupted ſtate of the juices.

When the diſeaſe is not very violent, the vegetable acids, ſays Dr. Fordyce, are generally ſufficient ; and they may be given very freely. It is a miſtaken notion, that they will produce the cholic, or diſagree where there already ſubſiſts

one,

one, as in putrid cafes of colic we know that nothing proves a fpeedier cure.

Chymiftry has moreover furnifhed the fhops with the nitrous, muriatic, and vitriolic acids; which, according to the chymifts, differ more in their degree of concentration than in their other qualities. In a very putrid ftate of the juices they are ufed with the greateft advantage. The muriatic acid, continues Dr. Fordyce, has with me the preference, not only from the obfervations I have made of its effects, but from the univerfally acknowledged antifeptic power of the fea falt, from which it is extracted. The virtues of thofe acids, in general, when given internally, are diftributed through all the parts of the body, the mouth, ftomach, blood veffels, and fecretory organs: for, applied to the mouth, they increafe the fecretions of faliva, and allay thirft: taken into the ftomach, they excite appetite by correcting its juices; for nothing palls it more than putrid matter lodged there.

The yellow fever prevailed at the Caraceos, in South America, in October, 1793, with great mortality. Nearly all died, fays Dr. Rufh, who were attended by phyficians. Recourfe was finally had to an old woman. Her remedy was a liquor called narencado, a fpecies of *lemonade*. With this fhe drenched her patients for the firft two or three days. It induced plentiful fweats,

and

and probably, after correcting, difcharged the acrimony of the bowels.

This plan has been purfued by Dr. Thornton with great fuccefs. Mr. Roberts, of Piccadilly, was feized with a putrid fever, and took, by Dr. Thornton's advice, the juice of a lemon every two hours. This was continued for a few days, when a diarrhœa coming on, the fever was entirely removed.

According to the experience of Krugelftein, putrid fever readily yields to the combined power of the mineral and vegetable acids. His method of exhibiting them is as follows: He firft gives cream of tartar, from one to two drachms, and immediately after it, from fifteen to twenty drops of vitriolic acid. Thefe are repeated every two or three hours, according to the exigency of the cafes. Dr. Krugelftein relates a number of extraordinary cures performed by this new practice.

Dr. Thornton is in the habit of ordering the bodies of patients labouring under putrid fever, to be wafhed with nitre diffolved in vinegar, and has the arms plunged in this folution. The petechiæ difappear like a charm, and the body becomes impregnated with the nitre; for a piece of paper dipped in the urine of a patient thus treated, becomes touch paper, that is, it catches fire upon the approach of the leaft flame.

Dr. Gregory, the prefent illuftrious profeffor at Edinburgh, frequently directs vinegar and

water

water in putrid fever. He orders the bodies of his typhus patients to be washed with a sponge, dipped in cold water and vinegar, at least twice a day. This operation I shall call *lavatio frigida.* The earlier this mode is practised, says this eminent physician, the better; because, in typhus the patient grows daily worse, for in the second week there is a great increase of fever, and a proportional loss of strength, but even then Dr. Gregory has found the application of the wet sponge as a miracle; nor have *delirium* or *petechiæ* been considered by him as any bar to the adoption of this remedy; on the contrary, where these have been present, and the pulse much quickened, he has, by the *lavatio frigida*, speedily reduced the pulsations from 110 to 90 in the minute, and the delirium, and other threatening symptoms, have soon after disappeared. About a fortnight ago, a student of physic, who had been ill for some days before Dr. Gregory was applied to, had, besides a great degree of fever and delirium, numerous spots, or petechiæ, on his breast, belly, and extremities. The *lavatio frigida* was used on the day the Doctor first visited him, and by next morning the delirium had ceased, and the petechiæ disappeared. The pulse, which on the preceding day had been 110, was now at 80; and by continuing the application of the wet sponge now and then, the pulse became natural on the fourth day after the Doctor first saw him. Many

similar

ſimilar caſes might be adduced from the books of the clinical ward of the Royal Infirmary.

In the beginning of typhus, ſays Dr. Wright, of Barbadoes, I have ſeen the cold bath have the happieſt effect; and through the day, when the ſick were hot, waſhing the hands and face ſuddenly in cold water and *vinegar*, was exceedingly refreſhing. Light covering in bed was directed, eſpecially where there was any preternatural heat. In the early ſtages, where there were ſymptoms of inflammatory diatheſis, we had recourſe to ſmall doſes of antimonial powder alone, or mixed with a few grains of calomel. Where the body was coſtive, five grains of calomel proved to be the beſt laxative, or purge. By calomel, the pores of the ſkin were opened, a reſolution of the fever was brought about, and the patient happily recovered. Where patients were received in the advanced ſtages of yellow fever, we had ſtill recourſe to calomel, and at the ſame time, when it was needful, to mercurial frictions, and the warm bath; and we recollect of no inſtance where mercury had been freely given, and perſevered in till it ſhewed itſelf in the mouth, which was not attended with the happieſt conſequences*.

* The reader will forgive this inſertion of further teſtimony in favour of *Calomel*.

In a letter from Dr. Harris, of Jamaica, that phyſician gives a very flattering account of his ſucceſs in putrid fever by means of this remedy, and ſays, that ſince he exhibited calomel, he has not loſt a patient in the yellow fever.

This report of Dr. Wright extends to the remitting and intermitting fever, cholera morbus, diarrhœa and dyſentery; it is ſigned by all the gentlemen of the medical ſtaff of Barbadoes; and is in every point of view deſerving of great attention.

That acids have a powerfully antiſeptic power as well as nitre, which is uſed with ſalt to preſerve meat, we have the following experiments by Dr. Macbride.

Having diluted the acids of vitriol, of ſea-ſalt, and of tartar, together with vinegar and the juice of lemons, all, as nearly as I could judge, to the ſame degree of weakneſs, leaving them juſt ſo ſtrong as to be fairly ſenſible to the taſte, as to change the blue juices into red, and to effer-veſce plainly upon the addition of an alkali; I then put ſome ounces of each into five phials, and in every one of them immerſed a little bit of freſh mutton; and a ſixth phial, with nothing but water and a bit of mutton, ſerved as a ſtandard.

They were all placed in a moderate degree of heat, (on the top of the furnace, along with the fermenting mixtures of the ſecond table) and ſuffered to remain for four days.

TABLE

TABLE I.—ACIDS diluted as ANTISEPTICS.

ACIDS.	AFTER STANDING 24 Hours.	48 Hours.	3 Days.	4 Days.
(1) of Vitriol.	Sweet.	Sweet.	Sweet.	Sweet.
(2) of Sea-falt	Sweet.	Sweet.	Sweet.	Sweet.
(3) of Vinegar	Sweet.	Sweet, and much fwelled.	Sweet.	Sweet.
(4) of Lemons	Sweet.	Sweet, and much fwelled.	Sweet.	Sweet.
(5) Water, as a Standard.	Smell grown offenfive.	Very fetid.	Putrid, and foft.	

OBSERVATION.

It appears by the foregoing Table, that they were all, excepting the ftandard, fweet at the end of four days. I next hung up all the fweet pieces in the open air, where they foon became dry, and remained fweet.

Thus it appears that acids, even when greatly lowered, have a ftrong degree of power to refift putrefaction.

TABLE II.—ACIDS tried as Correctors of Putrefaction.

ACIDS of	24 Hours.	48 Hours.	3 Days.	4 Days.
Vitriol.	The bit of putrid fleſh was found hard, ſhrivelled up, and almoſt ſweet.	Entirely ſweet; very much ſhrivelled and hardened.	As on the day before.	As on the day before.
Sea-ſalt.	Not ſo much hardened as in the Sp. Vitrioli, nor ſo much ſweetened.	More ſweet than on the preceding day, but not entirely ſweet.	No change ſince yeſterday.	Putrid ſmell returned.
Vinegar.	Softened; greatly ſwelled, and entirely ſweet.	No change ſince yeſterday	No change.	Grown livid, but ſtill ſoft and ſweet.
Lemon-juice.	Softened; greatly ſwelled, and entirely ſweet.	No change ſince yeſterday.	No change.	Grown perfectly white, but quite ſweet.

Here I put a number of ſmall pieces of mutton into a phial with water, and placed it in a moderate degree of heat, in order to make them putrefy the ſooner, I found them, after ſtanding four days, ſufficiently ſoft and putrid; I then put five of theſe bits of putrid mutton into as many cups, and poured, on the firſt, ſpirit of vitriol; on the 2d, ſpirit of ſea-ſalt; on the 3d, vinegar; and on the 4th, freſh lemon-juice; the 5th cup contained

contained only water, and was left as a ſtandard, by which the others were to be compared. The mineral acids in this experiment were diluted ſo as to reduce them, as nearly as could be judged, to the ſtrength of the vinegar that was uſed.

Now as ſulphur, &c. have no antiſeptic power, but when combined with oxygen, very ſulphuric or vitriolic acid, it has this property in a conſpicuous degree; is it not, therefore, from the *oxygen* that this power muſt be derived*?

The following letter from Sir William Fordyce to Sir John Sinclair, Preſident of the Board of Agriculture, ſets the virtue of acids in putrid fever in the ſtrongeſt point of view.

George Street, Hanover Square,
June 1, 1799.

DEAR SIR JOHN,

When I devoted myſelf to the ſtudy of phyſic, as far back as the year 1743, there prevailed at Uppingham, in Rutlandſhire, and the neighbouring villages, a malignant ſort of ſmall-pox, which juſtly alarmed that part of the country, inſomuch that every medical practitioner, who looked after the infected, was precluded from viſiting patients in other diſeaſes; by which means thoſe in that

* Vide the Section on the Rationale of the Operation of Oxygenous Subſtances on the Animal Body.

diſtemper

diſtemper came to be totally deſerted. In this calamity the overſeers of ten or twelve adjacent pariſhes ſolicited from me ſuch phyſical aids as I was capable of giving. From a careful peruſal of Dr. Sydenham on the Small-pox, joined to the daily inſtructions I received from a favourite pupil of the immortal Boerhaave, I proceeded to take the beſt care I could of my new patients.

I ſoon diſcovered in what caſes the antiſeptic medicines, as oxymel, cream of tartar, lemon juice, the vitriolic and nitrous acids, with wine and opiates, were likely to be neceſſary or uſeful; and under what circumſtances recourſe was to be had to the lancet, and the antiphlogiſtic regimen.

From that period to the preſent, I have been naturally curious to examine the works of ſuch writers, whether ancient or modern, as might be able to furniſh me with information concerning *malignant diſeaſes*, the moſt to be dreaded, and the moſt difficult to cure.

Excepting the boils recorded in the Old Teſtament, I have not met with an account of any diſtemper that could with propriety be termed peſtilential before the age of Hippocrates, the father of phyſic; who deſcribes an endemic, to which he gives that name, and in which he mentions a variety of ſymptoms nearly allied to thoſe of putrid diſeaſes in our time, but not ſpecifically characteriſtic of the Peſtilence. Nor does the

plague

plague of Athens, as reprefented by Thucydides, who was himfelf infected by it, and whofe narrative is the beft I have found in any ancient author, fufficiently refemble the plague of London, Marfeilles, or Mofcow, to juftify a comparifon between them. In fhort, no hiftory of the fymptoms or cure of the peft, in the true fenfe of that word, has been tranfmitted to us, as far as I can recollect, which could authorize or lead to a plan for preventing fo formidable a malady, or for nipping it in the bud when it begins to appear: —a circumftance that reflects double honour on the accomplifhed and magnanimous Emprefs of the North, for the directions fhe gave on the breaking out of the plague at Mofcow, of which the particulars have been defcribed by Dr. Samoïlowitz, with a precifion that renders of little moment all that had before been written on the peftilence in general.

His valuable work comes recommended by this peculiar advantage; that he defcribes the difeafe in all its ftages, from his own experience as well as obfervation, having voluntarily taken up his abode in one hofpital after another, for the benevolent purpofe of receiving and attending the infected, from the firft appearance of that moft alarming difeafe; though he was not ignorant that the very touch of thofe unfortunate perfons, or of any thing that had touched them, was fatal.

So far did his humanity, heroiſm, and love of his country, carry that amiable man! How ſuperior to thoſe names that have been often ſo loudly, though ſo unjuſtly, celebrated for their atchievements in the deſtruction of millions!

What remains for me is to point out, if poſſible, ſome ſimple, eaſy, and rational method of putting the human body, where the diſeaſe in queſtion prevails, into ſuch a ſtate as ſhall probably guard it againſt being affected by this deadly poiſon. That ſuch a prophylactic may be found in the *muriatic acid*, or the *concentrated ſpirit of ſea-ſalt*, I am induced to believe for the *reaſons*, and from the *facts*, which I will now ſubjoin.

Almoſt thirty years have elapſed ſince I heard by accident of a dry-ſalter, who had acquired a great reputation and a large fortune, from poſſeſſing a ſecret that had enabled him to ſend out to the Indies and other hot countries, beef and pork in a better ſtate of preſervation than any of the trade. As he was obſerved to pour into each caſk a ſmall bottle of tranſparent liquor, it occurred to me, that this could be no other than the *ſpirit of ſea-ſalt*; and I began to wonder how a preparation, the greateſt antiſeptic in nature, and extracted from a material that had been in uſe from the beginning of time, for preſerving as well as ſeaſoning food, ſhould have remained unemployed for the purpoſe of preſerving from putrefaction the juices of the human body; while

the

the *nitrous* and *vitriolic acids* had been ſo often uſed in the practice of medicine. It ſeemed the more ſurpriſing, now that chymiſtry had taught us to extract the *muriatic acids*, alike pleaſant to the taſte, and refreſhing to the ſenſes, at ſo ſmall an expence, from a material furniſhed by Providence in the greateſt plenty. If ſalt itſelf was found ſo beneficial for preventing putrefaction in animal ſubſtances, would not the extract from it operate in the ſame manner on our juices, with a power increaſed in proportion to its ſuperior purity and ſtrength?

Conſtantine Rhodocanacides, a Greek, who calls himſelf his Majeſty's chymiſt, publiſhed a pamphlet in 1664, expreſsly on the internal and external uſes of the *muriatic acid*, of which he claims the honour of being the inventor; at leaſt, he probably diſtilled it in a purer ſtate than it had been done by any body before that period. He publiſhed at the ſame time ſeveral certificates of the great benefit that had been received from it.

In a variety of complaints he ſold it as a noſtrum, and calls it the Alexicacon Spirit of the World, recommending it in all caſes: "When, "ſays he, we conſider the noble and univerſal "character of ſea-ſalt, the ingenious muſt con-"clude, that a ſpirit ſeparated from its dregs, and "preſented to us in its ſtrength and vigour, can-"not but be worth welcome reception." And

then

then he goes on to recapitulate its ufe externally, as well as internally; recommending it as preferable to *lemon juice* and *vinegar*, as more healthily taken mixed with water, beer, ale, cyder, or wine, and as proper for all forts of cookery; adding, that no error can be committed in taking any quantity from ten to forty drops; and that, as a prefervative, that quantity will ferve. But if any man be actually fick, he afferts its being a received prefervative againft the *plague*: yet we do not find any writer concerning the plague of London, who either at that time, or fince, has mentioned its internal ufe. I fhould add, that he recommended the ufe of it to travellers by fea or land, in the water and putrid things that they are forced to live on. It may be taken to the amount of *one hundred drops*, according to the quantity of malignant fymptoms, in all their drinks, and mixed with all their food, within the twenty-four hours.

From thefe hints, I was led on, continues Sir William, to ufe it internally in all *putrid fevers*; and this I have done with conftant fuccefs ever fince, efpecially where I found the tongue black and dry, with a black glare on the teeth, and the worft fort of putrid fever; and it has proved, in truth, *wonderfully efficacious* on fuch occafions, in checking the dyfcrafy of the humours, in reftoring the vital powers, that are more or lefs broken

down

down according to the degree of putrefaction, and in changing the petechiæ from a purple to a brown, and ſtill more diluted or redder colour, till they become quite evaneſcent.

I might here mention a great variety of caſes to illuſtrate its *ſurpriſing power* in correcting the moſt putrid ſtate of the juices; but ſhall confine myſelf to a few, which I hope will be ſufficient.

The Rev. Mr. Stuart, ſon to the Earl of Bute, was in the year 178 taken with the uſual ſymptoms of a *putrid fever*, violent head-ach, pain in his loins, ſickneſs at his ſtomach, anguiſh about the præcordia, and extreme debility, with delirium. A vaſt number of the true petechiæ, purple as violets, perhaps not fewer than a thouſand, made their appearance at the ſame time. We had immediate recourſe to the *muriatic acid* in great abundance; giving him likewiſe camphor and Mindereri ſpirit, with wines, pine-apples, grapes, and other ripe fruits. In the courſe of eight-and-forty hours, the ſpots were changed to a *brown* colour; and in a few days more, he was left in a ſtate of ſafety. I could not prevent his Noble Father from witneſſing, in perſon, the progreſs of a diſeaſe that often proves dangerouſly infectious. His Lordſhip obſerved, with *aſtoniſhment* and *delight*, the operation of this *admirable medicine*. He has ſince repeatedly expreſſed an earneſt wiſh to ſee its powers made public, from his conviction of its being calculated to prevent,

as well as extinguiſh, the worſt ſymptoms of putrid diſeaſes.

When the late Earl of Morton charged me with the care of the preſent Lord, while a youth, labouring under the ſame diſtemper, I comforted his Lordſhip extremely in the hope of preſerving his ſon, if I could have time *to pickle his juices with the ſpirit of ſea-ſalt*; which I did very largely, and it ſucceeded. (After this, he recommended me warmly to thoſe of his friends who required ſuch pickling in ſimilar caſes.)

I was deſired ſome weeks ago by Mr. Bliſs, the apothecary at Hampſtead, to inſpect ſome eruptions of an uncommon kind on Maſter Plenderleith, who complained of ſuch an extreme debility as gave his friends great uneaſineſs. I immediately diſcovered the ſymptoms of *petechial fever*. Beſides the uſual medicines, bark, camphire, and ſpiritus Mindereri, he took, by my directions, every twenty-four hours, to the amount of eighty-ſix drops of the *muriatic acid*, which in the courſe of a few days changed entirely the appearance of the purples, and left him in ſafety.

It were needleſs to quote more caſes in proof of the *wonderful efficacy* of the *muriatic acid* in the *moſt malignant diſeaſes* of this country; but it may be proper to add, that this *truly antiſeptic medicine* has been conſtantly uſed in the hoſpital of the Third Regiment of Foot Guards, by Meſſrs. Leſlie, Mearns, or Hay, for *many years*, with the *greateſt ſucceſs in all putrid diſeaſes* of that regiment.

What

What I have moſt earneſtly at heart is, from the detail above, to preſs the abundant uſe of this moſt powerful antiſeptic in all putrid caſes, eſpecially in thoſe countries where they commit ſuch ravage, and the ideas of an unavoidable deſtiny contribute ſo unhappily to its propagation and mortality.

I am, &c.

WILLIAM FORDYCE.

The diſperſion of *vinegar* * has been long employed as a *preſerver* againſt putrid fever, and at the ſame time is found highly advantageous to the ſick. In the account that Mr. Townſend gives of his own caſe in opening the firſt volume of his

* That vinegar contains much oxygen is proved as follows: Firſt, wine cannot be converted into vinegar but when it is expoſed to air, and when this air contains oxygen gas. Secondly, this operation is accompanied by a diminution of the bulk of the air occaſioned by the abſorption of the oxygen gas. Thirdly, one may convert wine into vinegar by oxygenating it in any other way. Beſides theſe facts, which prove that the acetous acid is a reſult of the oxygenation of wine, an experiment of Mr. Chaptal, profeſſor of chemiſtry at Montpellier, ſhews clearly what paſſes in this operation. He takes ſome fixed air which had been diſengaged from beer in fermentation; he impregnates water with it to ſaturation, that is, till the water has abſorbed about a quantity of fixed air equal to its bulk; he puts this water in a cellar in veſſels communicating with air, and in time the whole becomes converted into acetous acid, or vinegar.

elaborate

elaborate and judicious ſyſtem of Therapeutics, he makes mention of the great benefit he received from vinegar.

During my fever, ſays this excellent writer, to exclude light was eaſy, but to diminiſh heat, it was found expedient, even at this advanced ſeaſon of the year, that the room ſhould receive ventilation from windows which opened to the north, and that thoſe to the ſouth ſhould be covered externally with mats, which were ſprinkled, from time to time, with water, to promote evaporation, and thereby to abſorb the heat.

But as the heat ſtill continued to diſtreſs, although it did not riſe above 56 degrees of Farenheit's thermometer, the ceiling and the floor were ſprinkled, from time to time, with vinegar*, where it appeared, till evaporation had taken place, like the fineſt dew, by order of my phyſician, Dr. Thornton.

By theſe operations the thermometer in my room ſtood commonly at 52 degrees. This effect might have been obtained by ſprinkling the room with water; but there being evident ſymptoms of putridity, the preference was given to vinegar, as a powerful antiſeptic; the quantity of vinegar conſumed was ſix gallons in twelve days.

* This was done by putting vinegar into a hand baſon, by means of a hearth broom, care being taken that the broom was not made too wet.

Beſides

Befides the beneficial effect of cold, another was derived from this operation, which was to oxygenate the air and render it more fit for refpiration. Vinegar contains this in abundance, and parts from it readily. Being, therefore, fprinkled like dew upon the ceiling, the evaporation corrected that part of the air which had been vitiated by the breathing of the patient, and rendered it again fit for refpiration.

It moreover made refpiration pleafant, relieved the oppreffion of my cheft, and enabled me to breathe freely through the noftrils, without the affiftance of the mouth, which I could not do before the vinegar was fprinkled. It greatly increafed, at the fame time, my appetite, and quickened my digeftion.

Of the articles beft for diet in putrid fever, Mr. Townfend makes mention of the following:

No. I.

Frefh butter-milk, rather four.

No. II.

Take a pint of good butter-milk; leave it to be four; then put on it a quart of warm new milk in a wooden bowl, in the bottom of which are holes large enough to tranfmit the whey, but not the butter-milk. In twelve hours a rich fubacid curd of eafy digeftion will remain.

No.

No. III.

Leave a quart of new milk three or four days in a bowl till it becomes a jelly.

No. IV.

Put ſkim milk into a deep wooden veſſel, which muſt have a peg at the bottom. Place this in a veſſel of boiling water, and there leave it till the milk coagulates; then draw off the acid whey, reſtore the peg, and ſurround it once more with boiling water. At the end of twenty-four hours draw off more whey, and beat the curd with a wooden ſtick. It is then fit for uſe, and may be mixed with ſugar.

No. V.

In a baſon, or a ſoup plate, containing half a pint of water moderately warm, put thirty or forty ſnails, previouſly ſtript of their ſhells and waſhed; there let them diſcharge their ſlime.

To half a pint of this ſlime add a quarter of a pint of hartſhorn jelly, with the whites of four eggs. Let theſe be beat up; then add one glaſs of Madeira wine or ſherry, and the juice of lemon, with a little lemon-peel and cinnamon.

No. VI.

Infuſe oatmeal in a wooden veſſel till it ferments, and begins to acquire ſome degree of acidity.

dity. Strain off the liquor from the oatmeal, and evaporate by boiling to the confiftence of a jelly; this may be eaten mixed with white wine and fugar.

Conclusion.—If, however, we are not wholly to truft to acids for the cure of putrid fever, they certainly very much confpire with other remedies to this end, and hold a high rank among thofe remedies called antifeptic, and in granting them to patients we really yield to the dictates of nature, if not to the principles of philofophy, which are here attempted to be fet forth; namely, that fubftances containing *oxygen*, are the actual panacea in putrid fever.

In excufe for this long enquiry, which by fome may be deemed tedious, I muft beg leave to adduce the following fentiments of Baglivi:

Nihil magis igitur intereffe falutis hominum puto, quam ut per manus Medicorum nova indies detegantur remediorum genera, vel jam detecta folidis obfervationum præceptis efficacius muniantur.

SECT. VI.

OF FIXED AIR IN PUTRID FEVER.

MERIAN, a German writer of the laſt century, relates a ſingular fact, which proves the antiſeptic power of fixed air. The waters of *Schwalbach*, in the Landgravate of Heſſe, are ſo ſtrongly impregnated with fixed air, that even when thrown off in large quantities into ſome rocky caverns, through which theſe waters paſs, they even retain their virtues, for it is found, that every kind of animal ſubſtance is preſerved in theſe cells from putrefaction. "*In æſtuoſiſſima etiam æſtate carnes quaſcunque abſque omni putredine et fœtore conſervari**."

Merian thus points out the effects of this volatile principle, without being acquainted with the true nature of the principle itſelf. The Hon. Mr. Boyle was the firſt who aſcertained the antiſeptic power of ſome kinds of factitious air; Sir John Pringle diſcovered, that putrid ſubſtances were ſweetened by being immerſed either in fermenting or effervefcing mixtures; and Dr. Macbride has clearly proved, that it is the fixed air

* Merian, *Topographia Haſſiæ*, p. 123, et 127.

produced in these mixtures, which recovers putrid substances to a state of sweetness, for by repeated experiments it has been shewn that meat does not corrupt in fixed air, and that even tainted meat recovers its sweetness in this species of air.

What is usually called the anti-emetic mixture; viz.

R. Kali ppti. scr. 1.
Suc. limon. recent, unc. ½
Sacch. alb. pulv. dr. 1
Aq. font, unc. 1½
F. Haustus in ipso actu effervescentiæ sumendus*:

That is,

Take of prepared kali, one scruple
Fresh lemon juice, half an ounce
White sugar in powder, a lump
Common water, an ounce and a half,

which make into a draught, to be swallowed during the effervescence, which seems to have, says the in-

* This proportion is very different from that recommended by Boerhaave. The following is Boerhaave's prescription: R. Succi recentis citrei unc. ss. Vin. Rhenani unc. j. bene mistis adde salis absinthii drach. j. In ipso actu effervescentiæ potentur. The formula, as it stands in Riverius, is this: Salis absinthii scrupulus unus cum succi Limonum cochleari mixtus, remedium est præstantissimum, præsertim in vomitu qui febribus malignis solet contingere. An excellent remedy, especially in vomiting, which frequently occurs in putrid fever. In the vomiting attendant upon putrid fever, I have frequently found Port wine, and even brandy and water repeated, produce the happiest effects, if not arrested by the effervescing draught.

genious Dr. Macbride*, a peculiar power of correcting a putrid saburra, and of restraining vomitings occasioned thereby. A mixture of hock and Seltzer water, or, which is still more powerful, as being more saturated with the native alkali, the Vahls water, with hock, makes a most elegant and grateful draught, in cases where the bile is in such a state as to require somewhat to correct its sharpness.

Among the lower orders of people, bottled porter and cyder, which philosophers know contains abundance of fixed air, is given to persons labouring under putrid fever, and almost miracles have been atchieved. The example, indeed, deserves to be imitated; for cautiously and prudently administered †, these would be found by the practitioner, to be remedies of the greatest efficacy.

In malignant fevers, says Dr. Percival, wines abounding with fixed air may be administered, to check the septic ferment, and sweeten the putrid *colluvies* in the *primæ viæ*. If the laxative quality of such liquors be thought an objection to the use of them, wines of a greater age may be given, impregnated with fixed air, by a simple but ingenious contrivance of my friend Dr. Priestley ‡.

* Vide Macbride's Practice of Physic.

† The lower orders always overdose every thing.

‡ This has been often successfully done by Dr. Thornton. Vide Townsend's System of Therapeutics.

The

The patient's common drink might alſo be medicated in the ſame way. A putrid DIARRHÆA frequently occurs in the latter ſtage of ſuch diſorders; and it is a moſt alarming and dangerous ſymptom. If the diſcharge be ſtopped by aſtringents, a putrid *fomes* is retained in the body, which aggravates the delirium and increaſes the fever. On the contrary, if it be ſuffered to take it's courſe, the ſtrength of the patient muſt ſoon be exhauſted, and death unavoidably enſue. The injection of fixed air into the inteſtines, under theſe circumſtances, bids fair to be highly ſerviceable; and a caſe of this deplorable kind has lately been communicated to me, in which the vapour of chalk and oil of vitriol, conveyed into the body by the machine employed for tobacco clyſters, quickly reſtrained the *diarrhæa*, corrected the heat and fœtor of the ſtools, and in two days removed every ſymptom of danger *. Two ſimilar inſtances of the ſalutary effects of mephitic air, thus adminiſtered, have occurred alſo in my own practice, the hiſtory of which I ſhall briefly lay before the reader.

Mr. W——, aged forty-four years, corpulent, inactive, with a ſhort neck, and addicted to habits of intemperance, was attacked, on the 7th of July, 1772, with ſymptoms which ſeemed to

* Referring to the caſe by Mr. Hey, which is given in full, page 108.

threaten

threaten an apoplexy. On the 8th, a bilious loofenefs fucceeded, with a profufe hæmorrhage from the nofe. On the 9th, I was called to his affiftance. His countenance was bloated, his eyes heavy, his fkin hot, and his pulfe hard, full, and oppreffed. The diarrhæa continued; his ftools were bilious and very offenfive; and he complained of griping pains in his bowels. He had loft, before I faw him, by the directions of Mr. Hall, a furgeon of eminence in Manchefter, eight ounces of blood from the arm, which was of a lax texture; and he had taken a faline mixture every fixth hour. The following draught was prefcribed, and a dofe of rhubarb directed to be adminiftered at night:

R. Aq. Cinnam. ten, unc. 1.
Succ. Limon. recent. unc. ½.
Salis Nitri gr. 12. Syr. è Succo Limon. dr. 1.
M. f. Hauft.
4tis horis fumendus.

July 11. The diarrhæa was more moderate; his griping pains were abated; and he had lefs ftupor and dejection in his countenance. Pulfe 90, not fo hard or oppreffed. As his ftools continued to be fœtid, the dofe of rhubarb was repeated; and inftead of fimple cinnamon-water, his draughts were prepared with an infufion of columbo root.

12. The diarrhæa continued; his ſtools were involuntary; and he diſcharged in this way a quantity of black, grumous, and fœtid blood. Pulſe hard and quick; ſkin hot; tongue covered with a dark fur; abdomen ſwelled; great ſtupor. Ten grains of colombo root, and fifteen of the gummi rubrum aſtringens were added to each draught. *Fixed air*, under the form of clyſters, was injected every ſecond or third hour; and directions were given to ſupply the patient plentifully with water, artificially impregnated with fixed air. A bliſter was alſo laid between his ſhoulders.

13. The diarrhæa continued, with frequent diſcharges of blood; but the ſtools had now loſt their fœtor. Pulſe 120; great flatulence in the bowels, and fulneſs in the belly. The clyſters of fixed air always diminiſhed the tenſion of the abdomen, abated flatulence, and made the patient more eaſy and compoſed for ſome time after their injection. They were directed to be continued, together with the medicated water. The nitre was omitted, and a ſcruple of the Confect. Damocratis was given every fourth hour, in an infuſion of columbo root.

14. The diarrhæa was now checked. His other ſymptoms continued as before. Bliſters were applied to the arms; and a drachm and a half of the Tinctura Serpentariæ was added to each draught.

15. His

15. His pulſe was feeble, quicker, and more irregular. He doſed much; talked incoherently; and laboured under a ſlight degree of dyſpnæa. His urine, which had hitherto aſſumed no remarkable appearance, now became pale. Though he diſcharged wind very freely, his belly was much ſwelled, except for a ſhort time after the injection of the air-clyſters. The following draughts were then preſcribed:

R. Camphore mucilag. G. Arab. ſolutæ, gr. 8.
Infuſ. Rad. Columbo, unc ½. Tinct. Serpent. dr. 2.
Confect. Card. ſc. 1. Syr. è Cort. Aurant dr. 1. m. f. Hauſt.
4tis horis ſumendus.

Directions were given to foment his feet frequently with vinegar and warm water.

16. He has had no ſtool ſince the 14th. His abdomen is tenſe. No change in the other ſymptoms. The Tinct. Serpent. was omitted in his draughts, and an equal quantity of Tinct. Rhæi Sp. ſubſtituted in its place.

In the evening he had a motion to ſtool, of which he was for the firſt time ſo ſenſible as to give notice to his attendants. But the diſcharge was conſiderable and ſlightly offenſive, conſiſted almoſt entirely of blood, both in a coagulated and

and in a liquid ſtate. His medicines were therefore varied as follows:

R. Decoct. Cort. per unc. iſs Tinct. Cort. ejuſd. dr. 2.
Confect. Card. ſc. 1. Gum. Rubr. Aſtring. gr. 15.
Pulv. Alumin. gr. 7. m. f. Hauſtus 4tis horis ſumendus.

Red Port wine was now given more freely in his medicated water; and his nouriſhment conſiſted of ſago and ſalep.

In this ſtate, with very little variation, he continued for ſeveral days; at one time coſtive, and at another diſcharging ſmall quantites of fæces, mixed with grumous blood. The air-clyſters were continued, and the aſtringents omitted.

20. His urine was now of an amber colour, and depoſited a ſlight ſediment. His pulſe was more regular, and although ſtill very quick, abated in number ten ſtrokes in a minute. His head was leſs confuſed, and his ſleep ſeemed to be refreſhing. No blood appeared in his ſtools, which were frequent, but ſmall in quantity; and his abdomen was leſs tenſe than uſual. He was extremely deaf; but gave rational anſwers to the few queſtions which were propoſed to him; and ſaid he felt no pain.

21. He

21. He paſſed a very reſtleſs night; his delirium recurred; his pulſe beat 125 ſtrokes in a minute; his urine was of a deep amber colour when firſt voided; but when cold aſſumed the appearance of cow's whey. The abdomen was not very tenſe, nor had he any further diſcharge of blood.

Directions were given to ſhave his head, and to waſh it with a mixture of vinegar and brandy; the quantity of wine in his drink was diminiſhed; and the frequent uſe of the pediluvium was enjoined. The air-clyſters were diſcontinued, as his ſtools were not offenſive, and his abdomen leſs diſtended.

22. His pulſe was now ſmall, irregular, and beat 130 ſtrokes in a minute. The dyſpnœa was greatly increaſed; his ſkin was hot, and bedewed with a clammy moiſture; and every ſymptom ſeemed to indicate the approach of death. In this ſtate he continued till evening, when he recruited a little. The next day he had ſeveral ſlight convulſions. His urine, which was voided plentifully, ſtill put on the appearance of whey when cold. Cordial and antiſpaſmodic draughts, compoſed of camphor, tincture of caſtor, and Sp. vol. aromat. were now directed; and wine was liberally adminiſtered.

24. He roſe from his bed, and by the aſſiſtance of his attendants walked acroſs the chamber.

Soon

Soon after he was feized with a violent convulfion, in which he expired.

To adduce, adds Dr. Percival, a cafe which terminated fatally as a proof of the efficacy of any medicine, recommended to the attention of the public, may perhaps appear fingular; but cannot be deemed abfurd, when that remedy anfwered the purpofes for which it was intended. For in the inftance before us, *fixed air* was employed, not with an expectation that it would cure the fever in fo advanced a ftage, but to obviate the fymptoms of putrefaction, and to allay the uneafy irritation in the bowels. The difeafe was too malignant, the nervous fyftem too violently affected, and the ftrength of the patient too much exhaufted by the difcharges of blood which he fuffered, to afford hopes of recovery from the ufe of the moft powerful antifeptics. But in the fucceeding cafe the event proved more fortunate. Elizabeth Grundy, aged feventeen, was attacked on the 10th of December, 1772, with the ufual fymptoms of a continued fever. The common method of cure was purfued; but the difeafe increafed, and foon affumed a putrid type. On the 23d, I found her in a conftant delirium, with a *fubfultus tendinum*. Her fkin was hot and dry, her tongue black, her thirft immoderate, and her ftools frequent, extremely offenfive, and for

for the moſt part involuntary. Her pulſe beat 130 ſtrokes in a minute; ſhe doſed much; and was very deaf. I directed wine to be adminiſtered freely; a bliſter to be applied to her back; the pediluvium to be uſed ſeveral times in the day; and fixed air to be injected under the form of a clyſter every two hours. The next day her ſtools were leſs frequent, had loſt their fœtor, and were no longer diſcharged involuntarily; her pulſe was reduced to 110 ſtrokes in the minute; and her delirium was much abated. Directions were given to repeat the clyſters, and to ſupply the patient liberally with wine. Theſe means were aſſiduouſly purſued ſeveral days; and the young woman was ſo recruited by the 28th, that the injections were diſcontinued. She was now quite rational, and not averſe to medicine. A decoction of Peruvian bark was therefore preſcribed, by the uſe of which ſhe ſpeedily recovered her health.

We have the following letter from Mr. Hey to Dr. Prieſtley, concerning the effects of fixed air applied by way of clyſter.

Leeds, Feb. 15th, 1772.

Reverend Sir,

Having lately experienced the good effects of fixed air in a putrid fever, applied in a manner, I believe, not heretofore made uſe of, I thought it

it proper to inform you of the agreeable event, as the method of applying this powerful corrector of putrefaction took its rife principally from your obfervations and experiments on factitious air; and now, at your requeft, I fend the particulars of the cafe I mentioned to you, as far as concerns the adminiftration of this remedy.

January 8, 1772, Mr. Lightbowne, a young gentleman who lives with me, was feized with a fever, which, after continuing about ten days, began to be attended with thofe fymptoms that indicate a putrefcent ftate of the fluids.

18th. His tongue was black in the morning when I firft vifited him, but the blacknefs went off in the day-time upon drinking: he had begun to doze much the preceding day, and now he took little notice of thofe that were about him: his belly was loofe, and had been fo for fome days: his pulfe beat 110 ftrokes in a minute, and was rather low: he was ordered to take twenty-five grains of Peruvian bark, with five of tormentill root in powder, every four hours, and to ufe red wine and water, cold, as his common drink.

19th. I was called to vifit him early in the morning, on account of a bleeding at the nofe which had come on: he loft about eight ounces of blood, which was of a loofe texture: the hæmorrhage was fuppreffed, though not without fome difficulty, by means of tents made of foft lint, dipped

dipped in cold water, ſtrongly impregnated with tincture of iron, which were introduced within the noſtrils quite through to their poſterior apertures; a method which has never yet failed me in like caſes. His tongue was now covered with a thick black pellicle, which was not diminiſhed by drinking: his teeth were furred with the ſame kind of ſordid matter, and even the roof of his mouth and fauces were not free from it: his looſeneſs and ſtupor continued, and he was almoſt inceſſantly muttering to himſelf: he took this day a ſcruple of the Peruvian bark, with ten grains of tormentill, every two or three hours: a ſtarch clyſter, containing a drachm of the compound powder of bole, without opium, was given morning and evening: a window was ſet open in his room, though it was a ſevere froſt, and the floor was frequently ſprinkled with vinegar.

20th. He continued nearly in the ſame ſtate: when rouſed from his dozing, he generally gave a ſenſible anſwer to the queſtions aſked him; but he immediately relapſed, and repeated his muttering. His ſkin was dry, and harſh, but without petechiæ. He ſometimes voided his urine and fæces into the bed, but generally had ſenſe enough to aſk for the bed-pan: as he now nauſeated the bark in ſubſtance, it was exchanged for Huxham's tincture, of which he took a table-ſpoonful every two hours in a cup full of cold water:

water*: he drank ſometimes a little of the tincture of* roſes, but his common liquors were red wine and water, or rice-water and brandy acidulated with elixir of vitriol: before drinking, he was commonly requeſted to rinſe his mouth with water to which a little honey and vinegar had been added. His looſeneſs rather increaſed, and the ſtools were watery, black, and fœtid: it was judged neceſſary to moderate this diſcharge, which ſeemed to ſink him, by mixing a drachm of the *theriaca Andromachi* with each clyſter.

21ſt. The ſame putrid ſymptoms remained, and a *ſubſultus tendinum* came on: his ſtools were more fœtid; and ſo hot, that the nurſe aſſured me ſhe could not apply her hand to the bed-pan, immediately after they were diſcharged, without feeling pain on this account: the medicine and clyſters were repeated.

Reflecting upon the diſagreeable neceſſity we ſeemed to lie under of confining this putrid matter in the inteſtines, leſt the evacuation ſhould deſtroy the *vis vitæ* before there was time to correct its bad quality, and overcome its bad effects, by the means we were uſing; I conſidered, that if this putrid ferment could be more immediately corrected, a ſtop would probably be put to the flux, which ſeemed to ariſe from, or at leaſt to be encreaſed by it; and the *fomes* of the diſeaſe would likewiſe be in a great meaſure removed. I thought nothing was ſo likely to effect this as the

the introduction of fixed air into the alimentary canal, which, from the experiments of Dr. Macbride, and thofe you have made fince his publication, appears to be the moft powerful corrector of putrefaction hitherto known. I recollected what you had recommended to me as deferving to be tried in putrid difeafes; I mean, the injection of this kind of air by way of clyfter, and judged that in the prefent cafe fuch a method was clearly indicated.

The next morning I mentioned my reflections to Dr. Hird and Dr. Crowther, who kindly attended this young gentleman at my requeft, and propofed the following method of treatment, which, with their approbation, was immediately entered upon. We firft gave him five grains of ipecacuanha, to evacuate in the moft eafy manner part of the putrid *colluvies*: he was then allowed to drink freely of brifk orange-wine, which contained a good deal of fixed air, yet had not loft its fweetnefs. The tincture of bark was continued as before; and the water, which he drank along with it, was impregnated with fixed air from the atmofphere of a large vat of fermenting wort, in the manner I had learned from you. Inftead of the aftringent clyfter, air alone was injected, collected from a fermenting mixture of chalk and oil of vitriol: he drank a bottle of orange-wine in the courfe of this day, but refufed any other liquor, except water and his medicine;

tine: two bladders full of air were thrown up in in the afternoon.

23d. His ſtools were leſs frequent; their heat likewiſe and peculiar *fœtor* were conſiderably diminiſhed; his muttering was much abated, and the *ſubſultus tendinum* had left him. Finding that part of the air was rejected when given with a bladder in the uſual way, I contrived a method of injecting it which was not ſo liable to this inconvenience. I took the flexible tube of that inſtrument which is uſed for throwing up the fume of tobacco, and tied a ſmall bladder to the end of it that is connected with the box made for receiving the tobacco, which I had previouſly taken off from the tube: I then put ſome bits of chalk into a ſix ounce phial until it was half filled; upon theſe I poured ſuch a quantity of oil of vitriol as I thought capable of ſaturating the chalk, and immediately tied the bladder, which I had fixed to the tube, round the neck of the phial: the clyſter-pipe, which was faſtened to the other end of the tube, was introduced into the *anus* before the oil of vitriol was poured upon the chalk. By this method the air paſſed gradually into the inteſtines as it was generated; the rejection of it was in a great meaſure prevented; and the inconvenience of keeping the patient uncovered during the operation, was avoided.

24th. He was ſo much better, that there ſeemed to be no neceſſity for repeating the clyſters: the

 other

other means were continued. The window of his room was now kept ſhut.

25th. All the ſymptoms of putreſcency had left him; his tongue and teeth were clean; there remained no unnatural blackneſs or *fœtor* in his ſtools, which had now regained their proper conſiſtence; his dozing and muttering were gone off; and the diſagreeable odour of his breath and perſpiration was no longer perceived. He took nouriſhment to-day with pleaſure; and, in the afternoon, ſat up an hour in his chair.

His fever, however, did not immediately leave him; but this we attributed to his having caught cold from being incautiouſly uncovered, when the window was open, and the weather extremely ſevere; for a cough, which had troubled him in ſome degree from the beginning, increaſed, and he became likewiſe very hoarſe for ſeveral days, his pulſe, at the ſame time, growing quicker: but theſe complaints alſo went off, and he recovered, without any return of the bad ſymptoms above-mentioned.

I am, Reverend Sir,

Your obliged humble ſervant,

Wm. HEY.

POSTSCRIPT.

October 29, 1772.

Fevers of the putrid kind have been ſo rare in this town and in its neighbourhood, ſince the commence-

commencement of the preſent year, that I have not had an opportunity of trying again the effects of fixed air, given by way of clyſter, in any caſe exactly ſimilar to Mr. Lightbowne's. I have twice given water ſaturated with fixed air in a fever of the putreſcent kind, and it agreed very well with the patients. To one of them the aerial clyſters were adminiſtered, on account of a looſeneſs which attended the fever, though the ſtools were not black, nor remarkably hot or fœtid.

Theſe clyſters did not remove the looſeneſs, though there was often a greater interval than uſual betwixt the evacuations, after the injection of them. The patients never complained of any uneaſy diſtention of the belly from the air thrown up, which, indeed, is not to be wondered at, conſidering how readily this kind of air is abſorbed by aqueous and other fluids, for which ſufficient time was given, by the gradual manner of injecting it. Both thoſe patients recovered, though the uſe of fixed air did not produce a criſis before the period at which ſuch fevers uſually terminate. They had neither of them the opportunity of drinking ſuch wine as Mr. Lightbowne took after the uſe of fixed air was entered upon; and this, probably, was ſome diſadvantage to them.

I find the methods of procuring fixed air, and impregnating water with it, which you have

publiſhed, are preferable to thoſe I made uſe of in Mr. Lightbowne's caſe.

The flexible tube uſed for conveying the fume of tobacco into the inteſtines, I find to be a very convenient inſtrument in this caſe, by the method before-mentioned, (only adding water to the chalk before the oil of vitriol is inſtilled, as you direct,) the injection of air may be continued at pleaſure, without any other inconvenience to the patient than what may ariſe from his continuing in one poſition during the operation, which ſcarcely deſerves to be mentioned, or from the continuance of the clyſter-pipe within the anus, which is but trifling, if it be not ſhaken much, or puſhed againſt the rectum.

When I ſaid in my letter, that fixed air appeared to be the greateſt corrector of putrefaction hitherto known, your philoſophical reſearches had not then made you acquainted with that moſt remarkably antiſeptic property of nitrous air. Since you favoured me with a view of ſome aſtoniſhing proofs of this, I have conceived hopes that this kind of air may likewiſe be applied medicinally to great advantage.

A remedy which contains much fixed air has been lately ſtarted by the Rev. Mr. Cartwright, which merits the higheſt attention. Seventeen years ago, ſays this gentleman, I went to reſide at Brampton, a very populous village near

Chesterfield; I had not been there many months before a putrid fever broke out among us. Finding by far the greater number of my new parishioners much too poor to afford themselves medical assistance, I undertook, by the help of such books on the subject of medicine as were in my possession, to prescribe for them. I early attended a boy about fourteen years of age, who was attacked by this fever. He had not been ill many days before the symptoms were unequivocally putrid. I then administered bark, wine, and such other remedies as my book directed. My exertions, however, were of no avail; his disorder grew every day more untractable and malignant, so that I was in hourly expectation of his dissolution. Being under the absolute necessity of taking a journey, before I set off I went to see him, as I thought for the last time, and I prepared his parents for the event of his death, which I considered as inevitable, and reconciled them in the best manner I was able, to a loss which I knew they would feel severely. While I was in conversation on this distressing subject with his mother, I observed in a corner of a room a small tub of wort working. The sight brought to my recollection an experiment I had somewhere met with, *of a piece of putrid meat being made sweet by being suspended over a tub of wort in the act of fermentation.* The idea instantly *flashed* into my mind, that the *yeast* might

might correct the putrid nature of this disease, and I instantly gave him two large spoonfuls. I then told the mother, if she found her son better, to repeat this dose every three hours. I then set out on my journey. Upon my return, after a few days, I anxiously enquired about the boy, and was informed he was recovered. I could not repress my curiosity, though I was greatly fatigued with my journey, and night was come on; I went directly to where he lived, which was three miles off, in a wild part of the moors. The boy himself opened the door, looked surprisingly well, and told me he felt better from the instant he took the yeast.

After I left Brampton, I lived in Leicestershire. My parishioners being there few and opulent, I dropped my medical character entirely, and would not even prescribe for any of my own family. One of my domestics falling ill, accordingly the apothecary was sent for. His complaint was a violent fever, which in its progress became putrid. Having great reliance, and deservedly, on the apothecary's penetration and judgment, the man was left solely to his management. His disorder, however, kept daily gaining ground, till at length the apothecary considered him in very great danger. At last, finding every effort to be of service to him baffled, he told me he considered it as a lost case, and that, in his opinion, the man

man could not ſurvive four and twenty hours. On the apothecary thus giving him up, I determined to try the effects of *yeaſt*. I gave him two large table ſpoonfuls. In fifteen minutes from taking the yeaſt his pulſe, though ſtill feeble, began to get compoſed and full. He, in thirty-two minutes from his taking the yeaſt, was able to get up from his bed, and walk in his room. At the expiration of the ſecond hour, I gave him a baſon of ſago, with a good deal of *lemon*, wine, and ginger in it; he eat it with an appetite: in another hour I repeated the yeaſt; an hour afterwards I gave the bark as before: at the next hour he had food: next he had another doſe of yeaſt, and then went to bed, it was nine o'clock. I went to ſee him the next morning at ſix o'clock; he told me he had a good night, and was recovered. I, however, repeated the medicine, and he was able to go about his buſineſs as uſual.

About a year after this, as I was riding paſt a detached farm-houſe at the out-ſkirts of the village, I obſerved a farmer's daughter ſtanding at the door, apparently in great affliction. On enquiring into the cauſe of her diſtreſs, ſhe told me her father was dying. I diſmounted, and went into the houſe to ſee him. I found him in the laſt ſtage of a putrid fever; his tongue was black; his pulſe was ſcarcely perceptible; and he lay ſtretched out, like a corpſe, in a ſtate of drowſy inſenſibility. I immediately procured

ſome

ſome *yeaſt*, which I diluted with water, and poured it down his throat. I then left him with little hopes of recovery. I returned to him in about two hours, and found him ſenſible, and able to converſe. I then gave him a doſe of bark. He afterwards took, at a proper interval, ſome refreſhment. I ſtaid with him till he repeated the yeaſt, and then left him with directions how to proceed. ~~I called upon~~ him the next morning at nine o'clock. I found him apparently well, walking in his garden. He was an old man, upwards of ſeventy.

I have ſince adminiſtered the yeaſt to above fifty perſons labouring under putrid fever, and what is ſingular, continues this benevolent clergyman, "I have not loſt *one* patient."

Dr. Thornton, whoſe opportunities have been great in putrid fever, having the ſuperintendance of a diſpenſary * which includes the poor of nine pariſhes, and is ſituate in the vicinity of St. Giles, has made frequent trials of yeaſt, and ſpeaks highly in its praiſe.

One day, ſays the Rev. Mr. Townſend, by accident, as Dr. Thornton went paſt a ſhop † in Tottenham-court Road, he heard the ſcreams of a mother, who was agonized on ſeeing her child expire. Theſe ſcreams renewed the ſtruggles of the child, and the nurſe who attended, threatened to take

* The General Diſpenſary. † Mr. Burford's.

away at this moment the child, that it might die in quiet. Dr. Thornton got down immediately ſome tartar emetic, which quickly acted as a vomit; and after the operation was over, he gave rhubarb, which cleared the inteſtines; he then ordered the child every two hours yeaſt and water, with wine and bark, and in three days the dying child was up and well.

The infection had ſpread to two others in the ſame houſe. In this child and in another the putrid fever was attended with ſwelled glands, which ſuppurated, and threatened gangrene. In a robuſt ſervant girl, it took the form of a dreadful putrid ſore throat. She had an emetic, and afterwards ſome rhubarb, then yeaſt and water every two hours. The firſt effects of this newly diſcovered remedy, was that of rendering the pulſe fuller and fifteen beats leſs in a minute, and her black tongue ſoon aſſumed a clean and red appearance. Without bark or wine ſhe was ſpeedily recovered.

In Dr. Beddoes' Conſiderations there are the following cures: Mr. Caldwall, engraver, (as Dr. Thornton reports,) requeſted him to go into Green-ſtreet, Leiceſter-fields, to attend Mr. Hadril, who, he ſaid, it was ſuppoſed would not out-live the day. I found him labouring under a dreadful putrid ſore throat: the tongue was black and thick coated, and the pulſe quick and fluttering. Evacuations being firſt premiſed, yeaſt and

bark in porter, were exhibited every two hours. His ſiſter, who nurſed him, was ſoon after attacked by the ſame fever, but the throat was not affected. She was not like her brother confined to her bed, but her weakneſs was ſo great that ſhe could not walk acroſs the room, nor even ſtand up half a minute without ſupport. In both theſe caſes the relief from the yeaſt was very ſtriking, and they were ſoon cured. The wife was alſo infected, who received a ſimilar benefit from the yeaſt.

The moſt extraordinary caſes, however, are the following: In Huſband-ſtreet, a ſmall confined ſituation near Berwick-ſtreet, a fever broke out, which in the ſhort ſpace of a fortnight, in three houſes only, ſwept away ſix perſons. Dr. Thornton's aſſiſtance was at this time called in to Mrs. Woolcott, No. 1, in that ſtreet, who lay delirious and comatoſe, with her two children, all in the ſame bed. She refuſed medicine and food, and was obliged to be drenched in order to get either down. An emetic and cathartic being premiſed, they were all put upon the ſame plan; that is, were to take every three hours two-thirds of a glaſs of freſh porter, with two table ſpoonfuls of yeaſt, and the juice of half a lemon, and the food, at intervals, was the whites of eggs, which Dr. Thornton judged of all things were leaſt ſubject to putrify*, beat up with ſome ſugar and

* We know that eggs are kept for a great length of time, and the white, even under the heat of the hen's body, does not putrify, and it ſerves as milk to the embryo in the egg.

water,

water, and as it was the commencement of ſummer, ſtrawberries were alſo ordered ; and without any farther medicine from the apothecary than the emetic and purge, although the woman was at firſt obliged to be drenched, yet ſhe and her whole family recovered, and this very rapidly.

Among the poor in St. Giles's, nothing is adminiſtered by Dr. Thornton, after cleanſing the primæ viæ, than two table ſpoonfuls of yeaſt, in ſome porter, every two hours ; and out of above forty caſes not one has died under this treatment ; and when we conſider the difficulty there often is to make children take bark, and its frequent inefficacy, yeaſt muſt be conſidered as a very valuable acquiſition to the *ars medendi.*

SECT.

SECT. VII.

OF VITAL AIR IN PUTRID FEVER.

SEEING that fixed air and nitre pass off by the urine undecompofed*, fome doubts may remain whether thefe act by means of their *oxygen* purely, or from their compound ftate, which we know to be antifeptic†, hence the natural anxiety the philofopher muft feel refpecting the trials of pure *oxygen air* in putrid fever, and forry we are to fay, that thefe, at prefent, have been very few.

In Dr. Beddoes' Confiderations of the medicinal power of factitious air‡, we have the following communication from Dr. Thornton, in a letter to that patriotic phyfician.

DEAR SIR,

IT feems referved for the honour of the prefent enlightened age, to difcover a fcientific and fuccefsful method of treating putrid fever. The contagion has been reprefented as a ftimulus ex-

* Hence the efficacy of fixed air in the ftone, of which, in fome inftances, it is a folvent. Vide Hulme on Fixed Air.

† Probably this may arife from the *oxygen* they contain.

‡ See Part IV. and V. of this interefting work.

haufting

haufting the irritability of the fyftem, which depends upon the *oxygen* in the blood; and a method of cure hypothetically deduced was to fupply *this* as faft as it was *confumed* by *the exceffive and morbid ftimulus.* You juftly reprobate the common practice of drenching patients, labouring under typhus, with wine and opiates, until they are not unfrequently ftimulated to death. "If I have imputed the debility," you fay, "to its real caufe, our chief aim fhould be to reftore *the principle of excitability*; and ftimulants fhould in the meantime be exhibited with a more fparing hand." Under this perfuafion I have conducted my practice, and with what fuccefs the prefent cafe will difclofe.

John Lewis, chairman, living at No. 42, Compton-ftreet, was feized with head-ache; rigors, terminating in violent fweat; great thirft; a very unpleafant tafte in his mouth; delirium at night; a fenfe of burning in the region of the ftomach; fpirits exceedingly depreffed; fo weak as to feel his legs fink under him; his countenance was extremely vacant; his anfwers were incoherent; he complained of incipient deafnefs; being defired to put out his tongue, it appeared coated, and very brown; and there was a crackling noife in refpiration; the pulfe was feeble, tenfe, and very quick. In order to diminifh the excitement, I directed an emetic, to be fucceeded by a cathartic.

thartic. The former was repeated twice; the latter every night.

To impart *oxygen* to the blood, which was confuming by the excefs of morbid ftimulus, I made him inhale each day ten quarts of vital air to thirty of atmofpheric; and befides *oxyd* emetics and aperients, I gave him *nitre*; adding a little bark and myrrh to keep up his ftrength.

From my journal it appears, that he progreffively grew better, and in a fortnight was reftored; when, by my advice, he went into the country. In another cafe I combined the *acetum nitrofum* (nitrous acid) with the happieft effect.

I am, &c.

R. J. THORNTON.

In the Philofophical Magazine we have alfo the following interefting cafes.

After attending a family labouring under putrid fever, I was feized myfelf, fays Dr. Thornton, with the fame fever, but it was prevented forming by an emetic and calomel cathartic. It affailed next my wife, who being advanced in pregnancy, the fame remedies could not be employed, and the fever actually formed itfelf. The fymptoms became fo alarming, that muftard cataplafms were applied to the feet, and there arifing, towards the clofe of the difeafe, violent ftartings of the tendons, and a cold clammy fweat, with a flutter-

ing

ing and ſunk pulſe, I was induced to make trial of the *oxygen air* nearly in a pure ſtate, and Mrs. Thornton was immediately *revived* by this remedy, and after a fever, which laſted one and twenty days, recovered. A ſervant in the houſe, and a nurſe, were next ſeized, and I had the maid taken out of bed, and made her inhale thirty quarts of vital air, mixed with twice that quantity of atmoſpheric, which being repeated for a few days, ſhe was completely *reſtored*. The nurſe had an emetic and went home. My two children were afterwards ſeized with the ſame fever, and being declared by the gentleman who attended them, paſt all hopes, I ordered a carriage to be procured, and took them immediately to the top of Highgate Hill, where they were compoſed to ſleep by the keen country air, and came home greatly mended, which excurſion being repeated daily, they both recovered, to the ſurprize of every one. Seeing the good effects of *air*, and of the factitious *oxygen air*, I adopted both in the fulleſt manner in the inſtance about to be recorded, the reſult of which the reader will ſee from the following letter:

To Dr. Thornton,

Barnet, June 11, 1799.

DEAR SIR,

MY daughter was taken the 27th of February, 1798, with chills, followed by ſhiverings, conſiderable loſs of ſtrength and depreſſion of ſpirits. She

She continued ſuffering much from chills for about four or five hours, after which ſhe complained of heat and fluſhing in her face, not attended with much thirſt, and was a little delirious that night. The next day the ſymptoms encreaſed, and the debility was ſo great, that I was obliged, after the firſt paſſages had been thoroughly cleanſed, to have recourſe to wine and bottled porter, together with cordial antiſeptic medicines; which plan was purſued under your direction during the progreſs of the diſeaſe; towards the cloſe of which, the poor child was ſo ſhockingly debilitated, that we expected every minute would be her laſt, which induced you to direct *vital air**, by which, and the conſtant uſe of ſtrong vinegar thoroughly ſprayed with a hearth-bruſh all over the room and curtains of the bed, revived her aſtoniſhingly; but the manner in which ſhe conſtantly revived, after inhaling the *vital air*, muſt be chiefly attributed to it, as the vinegar had been uſed in the way beforementioned almoſt from the very beginning of the diſeaſe, and was, I believe, not only of great uſe to the patient, but prevented the fever ſpreading in my family. No poor human being, I believe, ever had a narrower eſcape from death, and I ſhall always feel myſelf under the higheſt obligations poſſible to you for your attention and extra-

* Sixteen quarts of vital air, mixed with the ſame quantity of atmoſpheric air, were adminiſtered in the evening.

ordinary

ordinary ſkill in reſtoring my dear child, with God's aſſiſtance, to,

Dear Sir,

Your much obliged and faithful Servant,

JOHN CORPE.

P. S. I had almoſt forgot to obſerve, that the door and windows of my dear child's room were kept almoſt conſtantly open, and being exactly oppoſite to each other, naturally created a free circulation of freſh air.

OBSERVATIONS ON THIS CASE BY DR. THORNTON.

This patient, when I ſaw her, was convulſed, and the nurſe ſaid, "That if it was her child, "nothing more ſhould be given." Even her mother requeſted, "If there really was no hopes, "that ſhe might not be diſturbed by medicine." What encreaſed the alarm was, a tradeſman a few doors off, had lately died of this ſame fever, under two eminent phyſicians, leaving behind a widow and ſix children. The caſe, indeed, ſeemed deplorable, but deſpair ſhould never be allowed while there is life, and it authorized the exhibition of the vital air, which undoubtedly contributed much to the recovery of this amiable young lady.

SECT. VIII.

THE SEQUEL OF PUTRID FEVER.

I HAVE before mentioned the vaſt debility and the proper treatment, after the ceſſation of putrid fever, until the period of convaleſcence, when exerciſe, air, and a generous diet, perfectly recovers the patient;—but in ſome inſtances, fatal diſeaſes ſupervene, as dropſy, general or partial, jaundice, and other diſeaſes of debility, which require, for their removal, beſide the natural, artificial ſtimuli, as bark, wine, ſteel, and particularly the inhalation of oxygen air, of which the ſyſtem has been greatly deprived, and the blood ſeems alſo in a great meaſure to have loſt its attractive power for that animating principle.

THEORETICAL OBSERVATIONS.

SECT. IX.

ON DYSENTERY.

The Dyſentery, or Flux, being a diſeaſe ſo deſtructive to ſoldiers in camps and garriſons, and a conſtant attendant on all military operations, it is a medical inquiry of the utmoſt importance to inveſtigate this diſeaſe with the utmoſt attention, in hopes of finding ſome method to put a ſtop to its devaſtation. It is a ſubject in which the welfare of mankind is deeply intereſted, and often the glory and honour of a nation. If the cauſe of humanity were not alone a ſufficient motive to induce to this reſearch, we need but turn our eyes on the political field; where we ſhould behold the beſt concerted meaſures often defeated by its influence.

On the 23d of October, 1415, Henry the Fifth, with his Engliſh archers, would not have "affrighted the air at Agincourt*," if impetuoſity had ſuffered the French to remain ſtill: had the battle been delayed but another week, his whole army would have been ruined. He em-

* This was called the battle of the men *without breeches*; for the Engliſh could not wear any on account of this diſeaſe.

barked with 50,000 men from Southampton, on the 18th and 19th of Auguſt, 1415, and landed at Havre de Grace on the 21ſt. He marched to Harfleur, beſieged, and took it. During the ſiege, which was not ſix weeks from the time of his leaving England, he loſt nearly half of his army by the bloody flux. *Two thouſands died of it in one day.* Rapin ſays, the flux, which was got among his troops, had made, and ſtill did make, ſuch ravage, that not above the fourth part of his army were able to bear arms. This diſtemper had not ſeized the common ſoldiers only, but even the moſt conſiderable perſons were not free from it. The Biſhop of Norwich, and the Earl of Suffolk, were already dead of it. The Duke of Clarence, the king's brother, the Earl of Arundel, and ſeveral other officers of diſtinction, were ſo dangerouſly ill, that they were obliged to return to England in hopes of a cure.

After the mock trial * and decapitation of the unfortunate Charles, although the parliament in Scotland

* The tribunal conſiſted of 133 perſons, as named by the commons; but there ſcarcely ever ſat above 70: ſo difficult was it, notwithſtanding the blindneſs of prejudice, and the allurements of intereſt, to engage men of any name or character in that criminal meaſure. Cromwel, Ireton, Harriſon, and the chief officers of the army, moſt of them of mean birth, were members, together with ſome of the lower houſe and ſome citizens of London. The twelve judges were at firſt appointed in the number: but as they had affirmed, that it was contrary to all the ideas of Engliſh law to try the king for treaſon, by whoſe authority all accuſations for treaſon muſt neceſſarily be conducted;

Scotland were invited to model their government into a commonwealth like England, yet they resolved still to adhere to monarchy, which had ever prevailed

conducted; their names, as well as those of some peers, were afterwards struck out. Bradshaw, a lawyer, was chosen president. Coke was appointed solicitor for the people of England. Dorislaus, Steele, and Aske, were named assistants. The court sat in Westminster-hall.

The king, though long detained a prisoner, and now produced as a criminal, sustained, by his magnanimous courage, the majesty of a monarch. With great temper and dignity, he declined the authority of the court, and refused to submit himself to their jurisdiction. Three times was Charles produced before the court, and as often declined their jurisdiction. It is confessed, that the king's behaviour, during this last scene of his life, does honour to his memory; and that, in all appearances before his judges, he never forgot his part, either as a prince or as a man. Firm and intrepid, he maintained, in each reply, the utmost perspicuity and justness both of thought and expression: mild and equable, he rose into no passion at that unusual authority which was assumed over him. His soul, without effort or affectation, seemed only to remain in the situation familiar to it, and to look down with contempt on all the efforts of human malice and iniquity. The soldiers, instigated by their superiors, were brought, though with difficulty, to cry aloud for justice: *Poor souls!* said the king to one of his attendants; *for a little money they would do as much against their commanders.* Some of them were permitted to go the utmost length of brutal insolence, and to spit in his face, as he was conducted along the passage to the court. To excite a sentiment of piety was the only effect which this inhuman insult was able to produce upon him. The people, though under the rod of lawless, unlimited power, could not forbear, with the most ardent prayers, pouring forth their wishes for his preservation; and, in his present distress, they avowed him, by their generous tears, for their monarch, whom, in their misguided fury, they had before so violently

prevailed in their country, and which, by the express terms of their covenant, they had engaged to defend. They confidered befides, that as the property of the kingdom lay moftly in the hands of great families, it would be difficult to eftablifh a commonwealth, or without fome chief magiftrate, invefted with royal authority, to preferve peace or juftice in the community. The execution, therefore, of the king, againft which they had always protefted, having occafioned a vacancy of the throne, they immediately proclaimed his fon and fucceffor, Charles II. Charles was at the Hague when Sir Jofeph Douglas brought him intelligence that he was proclaimed King by the Scottifh Parliament. He according came over to Scotland. Cromwell affembled his forces to attack the king, who was entrenched between Edinburgh and Leigh. The king avoided battle, and Cromwell found himfelf in a moft wretched fituation. He had no provifions but what he received by fea. He had not had the precaution to bring thefe in fufficient quantities; and his

violently rejected. The king was foftened at this moving fcene, and expreffed his gratitude for their dutiful affection. One foldier too, feized by contagious fympathy, demanded from heaven a bleffing on oppreffed and fallen majefty: his officer, overhearing the prayer, beat him to the ground in the king's prefence. *The punifhment, methinks, exceeds the offence:* this was the reflection which Charles formed on that occafion. The bloody fentence is too well known to need defcription.

army

army was reduced to difficulties. He retired to Dunbar. The king followed him, and encamped on the heights of Lammermure, which overlook that town. There lay many difficult paſſes between Dunbar and Berwick, and of theſe the king had taken poſſeſſion. Cromwell was reduced to extremities. A *flux* broke out in his army. He had even embraced a reſolution of ſending by ſea all his foot and artillery to England, and of breaking through, at all hazards, with his cavalry, when the madneſs of the Scottiſh eccleſiaſtics ſaved him from this loſs and diſhonour.

Night and day the miniſters had been wreſtling with the Lord in prayer, as they termed it; and they fancied, that they had at laſt obtained the victory. Revelations, they ſaid, were made them, that the ſectarian and heretical army, together with Agag, meaning Cromwell, was delivered into their hands. Upon the faith of theſe viſions, they forced Charles, in ſpite of his remonſtrances, to deſcend into the plain, with a view of attacking the Engliſh in their retreat. Cromwell, looking through a glaſs, ſaw the enemy's camp in motion; and foretold, without the help of revelation, "that the Lord had delivered them into "his hands." He gave orders immediately for an attack. In this battle it was eaſily obſerved, that nothing, in military actions, can ſupply the place of diſcipline and experience; and that, in the preſence

presence of real danger, where men are not accustomed to it, the fumes of enthusiasm presently dissipate, and lose their influence. The Scots, though double in number to the English, were soon put to flight, and pursued with great slaughter. The chief, if not only resistance, was made by one regiment of Highlanders, that part of the army which was the least infected with fanaticism. No victory could be more complete than this which was obtained by Cromwell. About 3000 of the enemy were slain, and 9000 taken prisoners. Cromwell pursued his advantage, and took possession of Edinburgh and Leith. The remnant of the Scottish army fled to Stirling.

In a revolution not less remarkable than that which happened in our own country, when the best of the French kings suffered a martyrdom equal or greater than our own, and the power of Europe coalesced in order to restore him to his power, the Duke of Brunswick headed an army of 50,000 Prussians, to whom was attached 15,000 Austrians under general Clairfait, and a considerable body of Hessians, together with 20,000 French emigrants, chiefly officers, amounting in all to 100,000 effective men, and these entered France. To oppose these, Dumourier had only 17,000 men collected near the point from which the enemy were approaching in Luxembourg.

bourg. The French emigrants had given the Duke of Brunſwick ſuch an account of the diſtracted ſtate of their own country, and of the diſaffection of all orders of men towards the ruling faction in Paris, that no reſiſtance of any importance was expected. When theſe combined troops, conſiſting either of ſteady Auſtrian or Hungarian battalions, or of thoſe well diſciplined Pruſſians which the great Frederick had inured to the beſt military diſcipline, were reviewed in Germany before ſetting out on their march, it is ſaid that the ſpectators, among whom the French cauſe was not altogether unpopular, beheld them with anxiety and regret, and pitied the unhappy country againſt which this irreſiſtible force was directed. The ſoldiers and their officers regarded themſelves as departing for a hunting match, or an excurſion of pleaſure; and many of the uſual accommodations of an army were ill attended to, ſuch as hoſpitals, &c. The beginning of their progreſs into France juſtified theſe expectations. Longwy ſurrendered after a ſiege of fifteen hours, although well fortified, poſſeſſed of a garriſon of 3500 men, and defended by 71 pieces of cannon. The news of this event irritated the aſſembly ſo much, that they decreed, that, when retaken, the houſes of the citizens ſhould be razed to the ground; and, diſtruſtful of the officers of the army, they decreed that the municipal officers of a town ſhould hereafter have power to controul the

the deliberations of the council of war. Verdun was next summoned; and here the municipality compelled the governor, M. Beaurepiare, to surrender. That officer, disappointed and enraged, shot himself dead with a pistol in presence of the council, and on the 2d of September the Prussian troops entered the town.

The Duke of Brunswick encamped his army at La Lun, a marshy ground in Champagne, near to the camp of Dumourier. The rain fell in torrents, and the roads became almost impassable. Exposed in autumn to cold and moisture, there was a predisposition to take infection, and the filth alone of an immense body of men, stationary in the field in autumn, and compressed as this army must necessarily have been, was sufficient to give rise to every species of pestilence. This actually appeared, and the people died of the *flux* like rotten sheep. A more sudden or extensive scene of military disaster was perhaps never exhibited. Above ten thousand were ill at one time. The French would not engage with, or take prisoners, an enemy amongst whom a pestilence was raging. A truce was made for eight days, when the Duke found himself obliged to quit France. Thus this vast and wonderfully appointed force, which had taken almost three years in "dreadful note of preparation," was obliged to relinquish all the hopes they had set out with, and with difficulty were able to trace back their steps.

Dysenteries

Dyſenteries, ſays Sir John Pringle, ſometimes appear upon firſt taking the field, but the caſes are never ſo bad, nor nearly ſo frequent, as towards the cloſe of ſummer, or in the beginning of autumn. At that time they become epidemic and contagious, prevail for about ſix weeks or two months, and then ceaſe. They are always worſe after hot and cloſe ſummers, eſpecially in fixed camps, or when the men lie wet after a march in warm weather.

The ſure diagnoſtics of the dyſentery, are ſmall but frequent ſtools of a ſlimy and frothy matter, a teneſmus, and gripings. Blood mixed with the fæces is a common, but not an inſeparable ſymptom; for many have all the other marks without this, at leaſt in the beginning; and others have blood in their ſtools, from various cauſes, without a dyſentery. But whereas this diſtemper is moſtly attended with blood, for that reaſon it has alſo the name of the bloody-flux.

The other ſymptoms are more caſual. Sometimes a violent bilious fever will terminate in the dyſentery; at other times the previous fever is inconſiderable; and now and then we ſhall find the dyſentery begin with ſcarce any feveriſhneſs at all.

In general, the fever attending the flux is of little conſequence, till the diſeaſe has continued long, and the patient is exhauſted; then it is of a low and malignant kind.

Streaks of blood denote the rupture of ſome ſmall veſſels in the rectum, but a more intimate mixture is a ſign that the blood comes from a higher ſource. This evacuation of blood, which alarms moſt, is the ſymptom leaſt to be dreaded; for though the oozing is conſtant, except in a few caſes, the quantity of blood loſt in the courſe of the diſeaſe is inconſiderable.

The fæces have all along a putrid ſmell, eſpecially if mortification takes place, and then they are moſt infectious. The gripes are generally vague, but ſometimes there will be a fixed ſpaſm in one part, cauſing exquiſite pain. Although a great deal of wind is evacuated, yet as it is ſoon regenerated, the gripes and flatulence become almoſt inceſſant. The ſtools are all preceded by ſharp gripings, and ſucceeded by ſome little reſpite: but the motions being ſo very frequent, the patient can have no conſiderable eaſe, unleſs from opiates, ſweating, fomenting the belly, or after a purge.

In the beginning, the ſtomach is uſually affected with a nauſea and ſenſe of oppreſſion; and though it is relieved by vomiting, yet the indigeſtion remains, by which all kinds of food turning either ſour or putrid, more wind is produced, and the gripings are continued. A hiccup ſometimes ariſes from this cauſe, and then is little to be dreaded; but in the low or advanced ſtate of the diſeaſe, when that ſupervenes, it is generally the

the ſign of a mortification of the bowels, and fatal.

It ſeems reaſonable to ſuppoſe that the dyſentery is owing to a cauſe little different from what produces the bilious fevers already deſcribed. The antients deduced both from an abounding and corrupted bile: but how far that opinion is true, and how to be qualified in regard to fevers, has been already ſaid. I ſhall only add, that in both caſes the vitiated humours may be turned upon the primæ viæ. In the ſmaller inteſtines, they may be abſorbed by the lacteals, and after producing a paroxyſm, be partly diſcharged by ſweat: but, if the putrid fomes is conveyed to the cæcum and colon, it can neither be well abſorbed, nor removed from thence, on account of the rugæ, cells, and flexures of thoſe parts. The firſt caſe gives the idea of a fever; and the laſt, that of a flux.

But however this be, it is plain that there is at firſt little difference between the cauſes of the two, conſidering, that the fevers begin to be frequent in camp whilſt the dyſentery ſtill ſubſiſts*; that

* On the 26th June, in the evening, the tents were ſtruck; the army marched all night, and next morning fought at Dettingen. On the night following, the men lay on the field of battle, without tents, expoſed to a heavy rain; next day they marched to Hanau, where they encamped in an open field, and on good ground, but then wet, and they had no ſtraw for the firſt night. By theſe accidents, a ſudden change was made in the health

that the diſtempers ſometimes change into one another.

health of the army. For the ſummer had begun early, and the heats hitherto had been great and conſtant; but the free and uninterrupted perſpiration attending thoſe very heats, had as yet prevented them from producing any general ſickneſs. Now the pores were ſuddenly ſtopped, the humours became putrid, and in that condition were turned upon the bowels, occaſioning an epidemic dyſentery; which began at this time, and continued for a great part of the ſeaſon. In the ſpace of eight days after the battle, about 500 were ſeized with it; and in a few weeks, near half of the troops were either ill, or had recovered of that diſtemper. It was common, though not nearly ſo frequent, among the officers; of whom thoſe were firſt ſeized who happened to lie wet at Dettingen: the reſt ſuffered by contagion. The dyſentery raged all the month of July and part of Auguſt, to which the weather contributed. For ſoon after the above-mentioned rains, which had cooled the air, the heats returned, and continued for ſome weeks ſo great, that the body, already too much diſpoſed, was farther prepared to receive the infection. Of this the chief fomes ſeemed to be the foul ſtraw and the privies: For as ſoon as we left that ground, the ſickneſs viſibly abated.

The numbers aggravated the ſymptoms, as in the caſe of the ſmall-pox, plague, and every other putrid and infectious diſtemper. But the flux is particularly deſtructive in full hoſpitals, where the corrupted ſteams being confined and accumulated, are raiſed to a high degree of virulence: of which fact the preſent ſickneſs afforded a fatal inſtance.

The village of Feckenheim, about a league from the camp, was taken up for an hoſpital; into which, during the ſtay the army made at Hanau, (beſides the wounded from the field of battle,) about 1500 ſick were ſent from the camp; and of that number the greateſt part ill of the dyſentery. By which means the air became vitiated to ſuch a degree, that not only the reſt of the patients were ſeized with the flux, but the apothecaries, nurſes, and other attendants, with moſt of the inhabitants of the village, were alſo infected. To this acceded a ſtill

another*; that when any number of men are expofed to colds in autumn, part will be feized with a remitting fever, others with this flux, and perhaps a third fort will have a diforder compounded of both. Add to this, that the firft fymptoms are fimilar, and that the epidemic re-

ftill more formidable difeafe, namely, the hofpital or jail fever, an infeparable attendant of foul air from crowds and animal corruption. Thefe two combined occafioned a great mortality: while on the other hand, fuch as were feized with the dyfentery, and not removed from the camp, though wanting many conveniencies others had in hofpitals, kept free of this malignant fever, and commonly did well. Few now efcaped; for, how mild or bad foever the flux was, (for which the perfon was fent to the hofpital) this fever almoft furely fupervened. The petechial fpots, blotches, parotids, frequent mortifications, contagioufnefs, and the great mortality fet forth its peftilential nature. In this it was worfe than the true plague, as there was no fecurity againft a relapfe; but, on the contrary, almoft a certainty of it, if the perfon continued in the infectious air. Of fourteen mates employed about the fick, five died; and, excepting one or two, all the reft had been ill, and in danger. The hofpital loft near half of the patients, which confifted of 3000 men; and the inhabitants of the village having firft received the flux, and afterwards the fever by contagion, between the two were almoft annihilated to a man.—Pringle.

* In proportion as the autumn grew cool, thefe fevers abated of their ardour, and formed more eafily into intermittents; though ftill irregular, and of a bad kind. The dyfentery was never general, but not uncommon; and it was obfervable, that thofe who were feized with it, ufually efcaped the fever; or, if any had both, it was alternately; fo that when the flux appeared, the fever ceafed, and when the firft was ftopt the other returned: whence it appeared, that though the two diftempers were of a *different form*, they proceeded from *a like caufe*.—Pringle.

mitting

mitting and intermitting fevers of a more malignant kind, have often ended in a bloody-flux*. Laftly, that fuch countries as are moft fubject to bilious fevers, are likewife moft liable to the dyfentery.

All authors agree in afcribing it to poifon; but what that poifon is, they either have not defined at all, or feem commonly to have miftaken. It appears to be of the putrid kind. A remarkable cafe once occurred to me, fays Sir John Pringle, of a perfon feized with a true dyfentery, upon fmelling to human blood, become putrid by ftanding fome months in a clofe vial. Again, this malady is moft frequent in hot, clofe, and moift feafons, when bodies are moft fubject to putrefaction; and it prevails chiefly among fuch as are of a fcorbutic habit, or the meaneft and pooreft people, who, from foul air, bad diet, and naftinefs, are moft liable to putrid difeafes. Laftly, the infection is evidently communicated by the fæces of thofe who are ill of the diftemper. For the dyfentery may proceed from two caufes, different in appearance, but in effect the fame; one, from poifon generated within the body; and the other from foul fteams, which being received into it, act as a ferment, and fuddenly produce the fame diforder that arifes more flowly from an internal caufe.

* Thom. Bartholin. Hift. Anatom. Cent. II. hift. lvi.

At

At first the smaller intestines seem chiefly affected; but upon the humour's descending into the colon and rectum, and stagnating there, the corruption increases; so that these parts may at last inflame and mortify at a time, when, perhaps, the bile is no longer putrid, nor the higher intestines the seat of the disease.

The putrefaction will also account for the great flatulence attending this distemper. For corrupted animal substances not only yield air of themselves, but occasion violent fermentations in all vegetable aliments. Hence arises such a quantity of air, that if it is pent up by opiates, it will be apt to distend the bowels and bring on a tympany.

PRACTICAL OBSERVATIONS.

SECT X.

THE COMMON PRACTICE IN THE CURE OF DYSENTERY.

The immediate caufes of all difeafes, well underftood and properly confidered, point to their cure. It was an obfervation of the illuftrious Sydenham, that poffeffing this knowledge, and a correct hiftory of a difeafe, he never was at a lofs to prefcribe a fuitable remedy for it; and that he always proceeded with caution, until thefe circumftances were afcertained.

The diforder in queftion has been, I believe, more confidered from its effects, remote, and concurring caufes, than from its immediate caufe; hence we may account for the inefficacy of the various attempts to cure it.

The pen of writers has done little more in the dyfentery, than record the times and places when and where it proved moft fatal; the appearance it put on; its fymptoms; its devaftation; variety of modes of treatment, that had no certain fuccefs;

cess; now and then a remarkable case; and the phænomena discovered on dissecting the dead*.

The great author above-mentioned, following nature as an unerring guide, never stopped at outward signs, neither did he bewilder himself in the search of those causes of diseases, that are not cognizable by our senses, but proceeded on to such as are immediate, or conjunct, and observed and assisted the means employed by nature to relieve herself struggling under the oppression of disease; or substituted a safer and better method, when her's was dangerous or ineffectual. To this principle the world is indebted for that inestimable work, which can only perish with it; a work founded on a basis applicable to all climes; that stands as the *palladium* of physic against the superstitious errors of the middle ages, and the ingenious chimeras of later times.

He describes the Dysentery as a poison attacking the intestines, and by the violent and frequent

* The various appearances of the intestines after death from this disease, have been described by a multitude of writers; and many of their descriptions collected together by Bonetus, and may be seen in his admirable work, the *Sepulchretum*, *Lib. III. Sect.* 11. But as dissections of this sort lead to nothing towards the cure of the dysentery, and as the appearance of the intestines varies according to the habit of the patient, and the duration of the disease, I have suppressed an account of many dissections there made, as demonstrative only of its effects.

efforts of the inteſtines to diſcharge the ſharp humours that continually vellicate them, the *mucus*, wherewith their inſide is naturally covered, is caſt out more or leſs copiouſly at every ſtool.

His plan of cure has been adjuſted to this opinion. Upon being called in, ſays Sydenham, I immediately direct bleeding in the arm, give an opiate the ſame evening, and the next morning this gentle purging potion, which I frequently uſe.

Take of tamarinds, half an ounce;
The leaves of ſena, two drachms;
Rhubarb, two ſcruples and a half;
Boil them together in enough water to leave three ounces of ſtrained liquor, in which diſſolve
Manna,
And ſolutive ſyrup of roſes, of each an ounce:
Mix them together for a purging potion, to be taken in the morning early.

I commonly prefer this draught to an electuary made with a ſmall quantity of rhubarb; for though this root be exhibited to evacuate acrimonious humours, yet unleſs a proper quantity of manna, or ſolutive ſyrup of roſes be mixed with it to quicken its operation, it avails little in curing a dyſentery. And becauſe it is certain that the gentleſt cathartics ſometimes increaſe the gripings,

gripings, and occaſion a general depreſſion and diſorder of the ſpirits during their operation, I therefore commonly give an opiate earlier than is uſual after purging, viz. at any hour in the afternoon, provided it ſeems to have done operating; and this I do in order to quiet the diſturbance I have raiſed.

I repeat the cathartics twice more, interpoſing a day between each, and exhibit an opiate after every purge, at the time above-mentioned, and direct it to be repeated morning and night on the intermediate days, in order to diminiſh the violence of the ſymptoms, and obtain a reſpite whilſt I am employed in evacuating the peccant humours. The opiate I chiefly uſe is liquid laudanum *, in the quantity of ſixteen or eighteen drops in any cordial water for a doſe.

The diet ſhould be made of hartſhorn ſhavings and the crums of white bread, of each two ounces, boiled in three pints of water to two, and afterwards ſweetened with a ſufficient quantity of fine ſugar.

This method, adds Sydenham, exceeded all thoſe I had hitherto experienced in conquering

* *Laudanum Liquidum* SYDENHAMI eſt. R. Vini Hiſpanici, lb. 1. Opij, unc. 1. Croci, unc. 1. Pulv. Cinnamomi et Caryophillorum aa dr. 1, infundantur ſimul in B. M. per duos vel tres dies, donec liquor debitam conſiſtentiam adquirat.—Colatum ſervetur pro uſu.

this

this diſeaſe, which, for the moſt part, yielded to the third purge.

But if it proved ſo obſtinate as not to yield to theſe means, I gave the former opiate every morning and evening, till it went quite off; and the more effectually to conquer it, I have ventured to give a larger doſe of laudanum than that above ſpecified, viz. twenty-five drops every eight hours, if the former doſe proved too weak to ſtop the flux. I likewiſe ordered a glyſter made of half a pint of milk, and an ounce and half of Venice treacle, to be injected every day, which is in effect an admirable remedy in all kinds of looſeneſſes. Nor indeed have I hitherto found the leaſt inconvenience happen from ſo frequent a repetition of opiates, (whatever miſchief the unexperienced imagine will follow from hence,) though I have known ſeveral who have taken them every day for ſome weeks when the diſeaſe proved inveterate. But it muſt be noted here, that when the flux amounts only to a looſeneſs, omitting bleeding and ſtrong purging, it will ſuffice to give half a drachm of rhubarb, more or leſs, in proportion to the ſtrength of the patient, every morning, made into a bolus, with a ſufficient quantity of diaſcordium, adding to it two drops of oil of cinnamon; and exhibiting an opiate the following evening, *e. g.*

Take

Take of ſmall cinnamon water, one ounce ;
Liquid laudanum, fourteen drops ;
Mix them together.

In the meantime uſe the diet as above ſpecified in the cure of the dyſentery, and inject the glyſter there commended every day, if there is occaſion.

This is exactly conſonant to the beſt modern practice. Where the irritative fever runs high, the ſtimulus of blood is to be leſſened, the poiſon is next to be evacuated, and the irritation in the bowels is to be allayed with opiate, and a muci lagenous* food ; and opiates are to be continued

* Gelatinous broths at the concluſion of dyſentery, is found to be veryexcellent. There is an excellent recipe of this nature in Dr. Buchan. Take, ſays this phyſician, a ſheep's head and feet with the ſkin upon them, and burn the wool off with a hot iron; afterwards boil them till the broth is quite a jelly. A little cinnamon or mace may be added, to give the broth an agreeable flavour, and the patient may take a little of it warm, with toaſted bread, three or four times a-day. A clyſter of it may likewiſe be given twice a-day. Such as cannot uſe the broth made in this way, may have the head and feet ſkinned; but we have reaſon to believe that this injures the medicine. It is not our buſineſs here to reaſon upon the nature and qualities of medicine, otherwiſe this might be ſhewn to poſſeſs virtues every way ſuited to the cure of a dyſentery which does not proceed from a putrid ſtate of the humours. One thing we know, which is preferable to all reaſoning, that whole families have often been cured by it, after they had uſed many other medicines in vain. It will, however, be proper that the patient take a vomit, and a doſe or two of rhubarb, before he begins to uſe the broth. It will likewiſe be neceſſary to continue the uſe of it for a conſiderable time, and to make it the principal food.

with

with a free hand. How different this from the fatal and common error of firſt attacking the diſorder in the bowels by opiates and aſtringents*, which is but aggravating the effect, while the cauſe is entirely neglected, a practice which has, and ſtill continues to deſtroy thouſands!

In all contagious diſeaſes the danger is encreaſed, and the infection ſpread, by the neglect of cleanlineſs; but in no one more than this. Every thing about the patient ſhould be frequently changed. The excrement ſhould never be ſuffered to continue in his chamber, but removed immediately and buried under ground.

* Hippocrat. Prœnot. Sect. 2. "Intempeſtivè ſuppreſſa inteſtinorum difficultas, abſceſſum in coſtis, aut in viſceribus, aut articulis inducit." And Galen de Ven. Sect. adverſus Eraſiſtrat. Cap. 6. ſays, "Melancholia, inſania, pleuritis, dolor renum, ſanguinis vomitus, epilepſia, hydrops, oriri poſſunt."—Thus Hippocrates and Galen. Brockleſby, in his *Medical Obſervations on Military Diſeaſes from* 1758 *to* 1763, ſays, "out of eight hundred men and women who were ill of a bilious fever and flux, upon the return of the troops to the Iſle of Wight, after an expedition and deſcents upon the coaſts of France, in the year 1758," he had a ſufficient number of inſtances, as well as in ſubſequent campaigns, to prove "ſome inconveniences from the aſtringent powers of rhubarb, and by too early checking the bilious evacuations. For many, who were treated in the uſual way, with rhubarb, joined with an opiate, immediately ſuffered delirious ramblings, or an increaſe of them, if they had any tendency to them before: they complained alſo of a tightneſs acroſs the cheſt, which called for immediate bleeding, though ſometimes the patient's ſtrength was already low, and much worn out."

A conſtant

A conſtant ſtream of freſh air ſhould be admitted into the chamber; and it ought frequently to be ſprinkled with vinegar, juice of lemon, or ſome other ſtrong acid.

The patient muſt not be diſcouraged, but his ſpirits kept up in hopes of a cure. Nothing tends more to render any putrid diſeaſe mortal, than the fears and apprehenſions of the ſick. All diſeaſes of this nature have a tendency to ſink and depreſs the ſpirits, and when that is encreaſed by fears and alarms from thoſe whom the patient believes to be perſons of ſkill, it cannot fail to have the worſt effects.

We cannot conclude this Section without noticing a frequent occurrence in Dyſentery; that is, a conſtriction. Sydenham, in treating of the epidemical dyſentery in London, of 1669, 1670, 1671, and 1672, uſes the words in ſo general a ſenſe, that he has been attacked by ſome obſervers of trifles, for ſaying, at the ſetting-in of the dyſentery in the firſt autumn, ſeveral had no ſtools at all, "*quamplurimi nullis omnino dejectionibus moleſtabantur.*" The fact was, the irritating poiſon occaſioned a conſtriction of the inteſtinal tube both ways, and their contents were locked in at top and bottom, occaſioning violent pain, while only mucus paſſes the conſtriction. Here the opiate, to relax the ſpaſm, muſt be firſt given *, and the purge follow, and the re-

* Gangrene often has enſued for want of this conſideration.

moved

moved ſcybala, or a congeries of hardened knots, will diſcover the removal of the chief cauſe of this great inteſtinal diſturbance.

In ſimple diarrhæa, the chief object is to determine to the ſurface of the body, where a flannel, or fleecy hoſiery waiſtcoat, is indiſpenſible. Here opiates produce the moſt beneficial effect, eſpecially the broth recommended in Note, page 151.

PRACTICAL OBSERVATIONS.

SECT. XI.

OF VITRUM ANTIMONII CERATUM IN DYSENTERY.

We come now to confider thofe fubftances which poffefs OXYGEN, and among the firft of thefe we will confider the pretenfions of the *glafs of antimony* * in this difeafe; for I conceive that the wax can have very little efficacy in the preparation of the cerated glafs of antimony.

This medicine, as far as I can learn, was firft employed by Mr. Steel, late minifter of Lochmaben, but kept as a fecret. Twelve years ago Dr. George Young got the receipt, but did not ufe it for fometime, diftrufting it partly as a harfh medicine in appearance, partly becaufe he had often been deceived in boafted fpecifics; till finding other medicines ineffectual in fo frequent and cruel a difeafe, he began to try it cautioufly, and found it to anfwer beyond expectation. After repeated experiments, he generoufly made the receipt public. I have tried it often myfelf in

* Oxydum ftibii fulphuratum vitreum.

ordinary cafes, and once in a dyfentery of four years ftanding, with furprifing fuccefs *.

Although I made no doubt of the public's confidence in any thing advanced by Dr. Young, a man of fingular judgment and veracity, I have notwithftanding been at pains to collect together feveral teftimonies of others concerning this medicine, that there may not in the leaft appear partiality in either the difcoverer or recommender. I have been the more cautious this way, feeing this medicine of all others appears to promife the leaft of an anti-dyfenteric, becaufe no man would think of the glafs of antimony, as the *fpecific* in dyfentery. *And that it is truly a* SPECIFIC *appears from hence, that it cannot be faid to cure by its purgative quality, becaufe it fometimes acts as an emetic, without purging; nor can it be faid to cure as an emetic, becaufe it fometimes purges without vomiting. Nor, laftly, can it be faid to act as an evacuant in general, becaufe I and others have known it to cure without any fenfible evacuation at all.*

THE RECEIPT OF THE MEDICINE, AND OBSERVATIONS UPON ITS OPERATION, BY DR. YOUNG.

TAKE glafs of antimony in powder one ounce, bee's wax one drachm, melt the wax in an iron

* This report is made by John Pringle, M. D. in Medical Effays and Obfervations, revifed and publifhed by a Society in Edinburgh.

ladle,

ladle, then add the powder; ſet them on a ſlow fire without flame, for the ſpace of half an hour, continually ſtirring them with a ſpatula; then take it from the fire, pour it upon a piece of clean white paper, powder it, and keep it for uſe.

When I prepared this quantity, it loſt a drachm of its weight. The glaſs melts in the wax with a very ſlow fire.

I was at firſt ſo ſcrupulous in preparing the medicine, that I wiſhed the degree of heat had been aſſigned, as well as the ſpace of time neceſſary in the preparation; but I have ſince found, that I both vary the time and degree of heat, without perceiving any difference in the operation of the medicine.

After it has been about twenty minutes on the fire, it begins to change colour, and in ten more, comes pretty near the colour of ſnuff; by that colour I know it is ſufficiently prepared, without attending to the degree of heat, or ſpace of time.

The ordinary doſe for an adult, is ten or twelve grains; but, for the greater ſafety, I commonly begin with ſix; to a ſtrong man I have given a ſcruple, which ſometimes works ſo mildly, that I have thought it too weak.

To weakly conſtitutions I give five or ſix grains, encreaſing the doſe afterwards, according to the operation.

To

To a boy of ten years of age I give three or four grains.

To a child of three or four years two or three.

This medicine has been practised with succefs for the dyfentery, and the preparation of it kept a fecret for many years.

When firft it was communicated to me, I thought it fo harfh and dangerous a medicine, that I had not courage to try it for fome years, and even then I began the dofe with one grain, and encreafed it gradually to twenty, which is the largeft I have yet given. As foon as I was convinced, by a number of experiments, that it was both mild and efficacious in curing the dyfentery, I publifhed the receipt in our Edinburgh newfpapers, being under no promife of fecrecy with regard to this, and being refolved never to make a fecret of any medicine whatever.

I do not expect that any phyfician will incline to give a full dofe at firft, without better authority than I can give to ftrangers; but the cautious may give as fmall a dofe as they pleafe, and make at firft trials almoft in any difeafe where purgatives will do no harm, and encreafe it gradually as they find it operate.

I gave it in dyfenteries with or without fever, whether epidemic or not.

I have tried it often, both where bleeding and vomits have been premifed, and where they have not, with equal fuccefs.

I never choose to give opiates in the beginning, especially where there is great ficknefs; becaufe, although opium gives great relief to fome, yet at other times I have thought both the ficknefs and purging thereby encreafed the following day.

I never began with a larger dofe than ten grains, becaufe it frequently operates as violently at firft, as twenty grains at laft, even upon the fame patient.

In its operations it fometimes makes the patient fick and vomits; it purges almoft every perfon, *but I have known it cure without any fenfible evacuation or ficknefs*; *nay, in violent dyfenteries, they purge feldomer with it than without it.*

If it purge fufficiently, or fatigue the patient any way, I intermit a day or two betwixt each dofe, the fame way as I do with other purgatives.

As I have cured fome with one dofe, I have been obliged to give others five or fix, efpecially when the firft dofes have been too mild; and I have often thought a weak dofe did no good in chronic cafes.

After the fecond or third dofe, the ftools are feldom bloody, the gripes and ficknefs are much abated, and the mucous ftools are lefs vifcid.

I give it with an empty ftomach, for then I think it operates moft mildly.

I forbid drinking any thing after it for three hours, unlefs the patient is very fick or difpofed

to

to vomit, in which cafe I give warm water as in other vomits.

I forbid the ufe of all fermented liquors, and recommend a milk diet, with rice or bread, chicken-broth, or water-gruel.

I give nothing cold, unlefs it be a tea-fpoonful of jelly of hartfhorn as often as the patients pleafe, and fometimes I indulge them with the *jelly of currants* to refrefh their tongue.

A Letter from Mr. Andrew Brown, Surgeon in Dalkeith, to Dr. Pringle.

SIR,

In obedience to your requeft, I fend you an account of two fuccefsful trials I made of Dr. Young's anti-dyfenteric powder, which was all I had an opportunity to make.

The firft was on William Loudon, at Cranfton, aged about forty years; he was fo reduced by the dyfentery, that he could not walk about his houfe, and through torturing gripes, could not fit in an erect pofture. I faw him firft on May 21ft laft year in this diftrefs; judging him beyond bleeding through weaknefs, I vomited him with ipecacuanha, and purged him with rhubarb, ordered his diet and drink as ufual, to no purpofe. I then fent for Dr. Young's Powders, and on the 25th, I gave him three dofes, of nine grains each, one to be taken every other day, and ordered him a regimen,

a regimen, which three doſes effectually carried off the dyſentery; and the remaining diarrhæa and weakneſs was removed by a ſtrengthening diet.

The other trial was on a young man about ſeventeen or eighteen years of age, a labouring ſervant to Mr. Cleghorn, farmer at Eaſt-houſes of Newbottle; he had laboured under the dyſentery for near three months preceding March laſt, continuing at his work, till, being obliged to deſiſt, his maſter applied to me. I viſited him on the 25th of that month; being young, I cauſed him to be blooded; he had the common ſymptoms attending the dyſentery, with torturing gripes and loſs of appetite, but was able to ſtep about. Being a ſervant, and ſeed-time in view, I immediately gave him three doſes of Dr. Young's Powder, ſix grains for a doſe, which ſuppreſſed the dyſentery; but not being quite conquered on the third of April, I gave him three doſes more, nine grains each, which effectually carried off the dyſentery, ſo that the young man recovered and returned to his labour at the end of the month.

N. B. He took his doſes as the other did, one every other day, and the regimen during the taking was according to Dr. Young's direction to me, and ſo far as I remember, it did not vomit them, nor were they ſo much as ſick.

Dalkeith, Jan. 30th, 1738.

A Letter from Dr. Thomas Simpſon, Chandos Profeſſor of Medicine in the Univerſity of St. Andrew.

DEAR DOCTOR,

I HAD your's two weeks ago, wherein you deſire my obſervations upon the Stibium Specificum, made public by our friend Dr. Young; but my being much in the country ſince that time prevented my writing them out till now.

The firſt I gave it to was William Jervy, tenant in Pilldaff, a young man ſomewhat above twenty years of age; for ordinary he complained much of nephritic pains, and laſt harveſt of a cough. January 16th, 1735, he was ſeized with the dyſentery moſt ſeverely; I was ſent for upon the 20th, when I found that the night before he ſcarce had had any interruption in his purging, attended with great anguiſh and ſickneſs, whereby he was ſo much defeatured, that he looked like a dying man. I gave him immediately fourteen grains of the ſtibium; the following twenty-four hours he was eaſier; next day he got a clyſter of Cow's-whey and camomile flowers, but was worſe: the third day I gave the ſtibium without obſervable ſucceſs; but this I aſcribed to cold in going to ſtool, which he did with his feet on an earthen floor. I had much ado to perſuade him to a third doſe, being quite diſpirited with the ſeverity of his diſeaſe, but two days after I at length prevailed; he was ſenſible of the good effects of this, which made

him

him the easier take a fourth dose, which of all relieved him most; so that after that I had little to do but to secure him against a relapse, which I did by a fifth dose, and the regulation of the non-naturals.

I had no other patient under that disease until December, when a woman in the town, the wife of one Andrew Murray, took it formally with horror, gripes, sickness, drowth, &c. I saw her after she had been pretty severely handled with it for ten days; I gave her ten grains *diebus alternis*; three doses recovered her.

In the beginning of April, 1736, a young lady who had dysentery, had taken for a vomit mercur. præcipit. Wurtz. gr. 7, at eight in the morning, which at eleven had vomited her five times, but she continuing very sick for twelve hours, it began again to vomit and purge her at the same time; and in this case she continued till nine next morning, when I was sent for. I gave her a dose of laud. liquid. which made her easier that day; but next day her purging returning with blood and gripes, I immediately gave her vitr. antimon. cerat. gr. 6. It was six hours before she had a stool, and then it was free of blood, and taking its natural appearance.

One Wilson, a boy about fourteen, son of one of the tenants in Magus, for a whole year had been subject to the dysentery, though in an easy manner, being still able to keep his feet. I obliged

 him

him to come to town that I might ſee him from day to day. When I gave him the firſt doſe, he was under one of his worſt fits. Six grains, or ten at moſt, was the utmoſt I went to now with any patient, finding the leſſer doſes anſwer beſt. I gave him only ſix grains for a doſe; the firſt day his firſt ſtools were bloody, but the laſt untinged; the ſecond day he kept eaſy; the third his ſtools were again bloody; the fourth he got a ſecond doſe, but purged none, and was free of gripes; next day his ſtools appeared to form, though interſperſed with blood, and after this the blood quite diſappeared; neverthelefs, before he left the town, I gave him two other doſes to ſecure againſt a relapſe; and, when I enquired about him ſome time after, he was in good health.

About the ſame time I gave two doſes of ſix grains each to Deacon Addiſon, an old man about 70, and cured him under a pretty ſevere attack of that diſeaſe.

In June I gave it to David Taylor's wife, tenant in the Brake, in the fifth month of pregnancy, violently attacked with a dyſentery and teneſmus. The third doſe carried off the dyſentery, and the remaining teneſmus yielded to clyſters of milk and camomile flowers.

Mr. Tod's wife of Balmungo, who had got the ſame diſeaſe, was quite cured by three doſes.

February 1ſt, 1737, William Wilſon in the Toſh took the dyſentery after the epidemic fever, and

and was cured by three doſes, gr. 6. About this time it turned epidemic to the eaſtward of St. Andrew's, particularly about Kinſbarns and Craill; many of the boys of this laſt town were ſeized; the firſt who were ſeized with it were cured by bleeding and purging with rhubarb; but upon Stibium being introduced amongſt them, the cure was much more ſpeedy. I had ſeveral of the country people under this diſeaſe at this time, none of which required above the third doſe. Its ſucceſs now was ſo obſervable, that ſome of the gentlemen in the parts where it raged moſt, applied to me for doſes of it to give their poor in the neighbourhood, and I received letters of thanks, with accounts of its *obſervable ſucceſs, which indeed was ſo great, that none ever doubted of it where I gave it.*

An old miniſter in the neighbourhood, aged 70, had been troubled with gripes for ſeven or eight months, with now and then a looſe belly, and at laſt came to paſs pure blood, to the quantity at leaſt of two or three gills a day. After continuing four or five days in this way, upon his ſending for me, I gave him ſix grains. The firſt doſe leſſened the hæmorrhage, the ſecond cured it.

Thus you find in what different caſes I have given this medicine, and how effectually, in all dyſenteries of long and ſhort continuance, epidemical and others, as alſo in the hæmorrhagies of the inteſtines,

inteſtines, in which I could not deſire more certain proofs of its ſucceſs than I have had: that there are many caſes in both diſeaſes in which it will not ſucceed, nobody will doubt, conſidering the different kinds of conſtitutions we meet with: but that it is a true and ſucceſsful *ſpecific* in moſt, is as certain as that the bark cures agues and gangrenes. So that in my order of medicines I have made it the *ſecond* for its true and obſervable qualities; for a SPECIFIC *I muſt term it, ſince I find that ſix grains, without purging, or the leaſt diſturbance, anſwers our intentions in moſt caſes.* How much the world is indebted to Dr. Young for making it public, every one who has tried it muſt be forced to confeſs.

St. Andrew's, Jan. 2, 1738.

A Letter from Mr. John Paiſley, Surgeon in Glaſgow.

SIR,

YOUR laudable endeavours to promote the art of medicine, and particularly in recommending the ſtibium ceratum, not only in fluxes, but in hæmorrhagies, which I had an account of a good time ago from my couſin, Dr. Simpſon, at St. Andrew's, and from other good hands ſince, make me hope you will more eaſily pardon the freedom I take of acquainting you with the ſucceſs I have had in uſing it, though I have not the happineſs

of

of your acquaintance ; and beg the favour, if you can ſpare ſo much time, as to let me have an anſwer to a query or two I ſubjoin.

When I at firſt uſed that medicine, I procured it from Edinburgh, by means of Mr. Stephen, ſurgeon to General Whetham's regiment, who can vouch for its effects in a great many caſes, where he and I attended jointly both ſome of the town's people and his own men. At firſt we gave only ſeven grains in a doſe, and to ſome ſtrong perſons encreaſed it by degrees to 13 or 14 grains, and proportionably leſs to weak and younger patients, made up in a bolus with conſerv. roſar. diaſcord. or theriac Edinens. allowing for drink water-gruel, ſometimes with, ſometimes without milk; at other times emulſion, tea, or weak broth, and always an opiate after the operation. It ſometimes vomited, but purged without griping, or but very gently. When it occaſioned vomiting, it made them very ſick before the operation, but ſo ſoon as it wrought downwards, that went off.

When the parcel I had from Edinburgh was done, I made it by the directions given in the *Edinburgh Courant*, making uſe of white wax to beſmear the ladle, and did not bruiſe the ſtibium: after keeping it on the fire the time ordered, I could not rub off any wax: when it was cold, I rubbed it fine in a marble mortar. Of this kind

I gave

I gave only three grains, and never above five, even to ſtrong perſons, and found it wrought as well as what I had from Edinburgh, and in the ſame manner, notwithſtanding the diſproportion in the doſes. I did not keep a liſt of all the patients to whom I gave it, but I am certain I gave it to above *forty*, *who all recovered.*

As the diſeaſe was epidemic, and the patients generally were ſeized with a fever, at the beginning, in moſt of them I took away ſome ounces of blood before uſing of it, giving it every other day, and in the intermediate days a light cordial; and if there was great pain in the lower belly, or rectum, an emolient clyſter, with the yolk of an egg.

Four or five doſes perfected the cure for moſt part, when taken in time. In others, where it was of long ſtanding, I have been obliged to go the length of twelve or fifteen doſes, and never once ſaw any bad effect from it. I have tried it in diarrhœas, dyſenteries, and cholic pains, from viſcid ſordes in the inteſtines, and found it in all theſe caſes a ſafe eaſy purgative, and ſometimes a gentle emetic, and *much ſurer and a ſpeedier cure than the ordinary methods*, which I uſed with a great many patients at the ſame time, &c.

Glaſgow, Feb. 6, 1738.

A Letter

A Letter from Mr. James Stephen, Surgeon to General Whetham's Regiment.

SIR,

BEING informed you wanted to know the ſucceſs of the Vitrum Antimonii given in Dyſenteries, is the reaſon of my ſending you this. For theſe three laſt years dyſenteries have been epidemical, not only in the regiment, but in all the places where it has been quartered; and not finding the deſired ſucceſs from the common method of cure, put me on making all the enquiry I could for an improvement. I at laſt happily met with the Vitrum Antimonii in an apothecary's ſhop in this town; and the character that was then given me of this remedy, encouraged me to make a trial of it. On my return to the regiment, then at Glaſgow, in December, 1735, I communicated my deſign to Mr. John Paiſly, ſurgeon, who deſired to be preſent on making the experiment, and who, to my knowledge, has conſtantly practiſed it ever ſince.

Our firſt patient was a labourer in a ſugar-houſe, (theſe people are very ſubject to that diſeaſe,) he had been confined to his room ſix weeks, and to his bed ten days, before we ſaw him; his pulſe was low and frequent, his ſtools bloody, with a conſtant griping and teneſmus. We began with giving him two grains of the medicine, which gave him one puke, and five or ſix ſtools that

day;

day; he had an opiate in the evening. Next morning the griping and tenefmus was much abated. We repeated the medicine every other day, till it was augmented to nine grains, by adding a grain to every dofe, with an opiate always that evening he took the medicine, which entirely cured him; and in fix weeks from the firft beginning of the cure, I faw him working in the fugar-houfe, and he has continued well ever fince.

Since December, 1735, I have had *an hundred* and *ninety patients* in dyfenteries, who were all treated after the fame method as above, of which I loft *but one*, who turned hectic, and died about the thirty-fixth day of his being taken ill.

Canongate, Feb. 6, 1738.

I fhall conclude, by reading the ftrongeft teftimony of all, in a letter wrote to me by Mr. John Gordon of Glafgow, whom I am not acquainted with, but whofe character we know to be that of an eminent furgeon, and a moft refpectable man,

SIR,

I GIVE you the fatisfaction you defire with a great deal of pleafure. In the harveft 1736, we had a great many people afflicted with the diarrhœa and dyfentery, which *carried off feveral.* At that time I began to try the ftibium ceratum, and gave it to *fome hundreds*, and *fince never miffed of fuccefs*, excepting one or two cafes, were the patients

patients were quite exhausted before they got it.

I prepared it as fine as we do calomel; three grains of this fine powder is an ordinary dose; I never exceeded five; one or two doses frequently perfected the cure, and seldom I gave three; they got the dose in the morning, and were often two hours before it operated; some it only purged, others it both purged and vomited, and made them pretty sick for six or eight hours; always at night I gave a good dose of opium. Lately a boy of ten years of age had tried for some weeks the common method, with ipecacuan, rhubarb, and decoct. diascord. to be cured of a very bad diarrhœa, to no purpose, his looseness still returning; he was cured with two grains of the fine powder, and a dose of liq. laud. and continues well.

Glasgow, Jan. 18, 1738.

In the West-Indies, says Dr. Moseley, in the presence of several of the officers of different regiments, who were desirous to be spectators of a fact so interesting to the army, a soldier has been taken in the worst condition of the disease, with blood running from him, as in an hæmorrhage from a wound, and in the utmost agony; I have given him three grains of the common glass of antimony, finely prepared, and made into a small pill; this perhaps has operated upwards and downwards; but in promoting its operation to the

the ſkin, thoſe other operations ceaſed, and a violent ſweat has enſued; which was kept up by warm herb teas, and now and then ſmall doſes of laudanum, which may always be given with ſafety, and without any of its uſual inconveniencies, while the patient is ſweating, which is a fact worthy the attention of practitioners: even the firſt ſtool, after the ſweating has been raiſed, has been leſs bloody, and the third, or fourth, frequently ſcarcely tinged.—Such is the power of MEDICINE!

PRACTICAL OBSERVATIONS.

SECT. XII.

OF THE PULVIS ANTIMONIALIS, OR JAMES'S POWDER, IN DYSENTERY.

SENAC gave emetic tartar in ſmall doſes; but he expreſsly ſays, he gave it as a laxative to keep up a free paſſage from the ſtomach to the rectum.

In London, during winter, a perſon had taken a doſe of Glauber's ſalt, and the ſame evening went into a warm bath; after which he returned to his own houſe. In the night he was ſeized with pains in the bowels, and a conſtant irritation to go to ſtool. The next day he voided blood, and bloody mucus, and had a complete dyſentery. He took chalk julep and laudanum for two days; but the ſymptoms increaſing, he had bloody excrements almoſt every quarter of an hour, with great ſtraining, anxiety, laſſitude, and fever. Being conſulted, ſays Dr. Moſeley, I adviſed him to go to bed, and to take ten grains of James's Powder; to cover himſelf well; and to dilute, and promote a ſweat; and to continue the ſweating, by repeated doſes of James's Powder, every four hours,

hours, drinking plentifully of warm balm, or mint tea. The James's Powder made him retch a little at firſt, and he continued to have ſeveral griping ſtools, until the powder produced a plentiful ſweat; after which, the pains abated; he had no ſtool for twenty-four hours; he took three doſes of the powder, and was cured.

James's Powder is admirably calculated to anſwer the firſt intentions in this diſeaſe: it poſſeſſes this great advantage, that though it ſhall effectually cleanſe the primæ viæ, properly given, it never fails to excite a plentiful ſweat, and its effects terminate on the ſkin. This double operation, if I may ſo call it, perhaps has made it ſo deciſive in obſtinate dyſenteries.

When the diaphoreſis is begun, I cover my patient, if a ſoldier, with a blanket (which no ſoldier ſhould be without), and take care that the wind is not admitted directly upon him. I do not ſuffer him to uncover himſelf, but order whatever he wants to be brought to him, and ſupply him copiouſly with warm barley-water, mint, ſage, balm, or oatmeal tea; and now and then give him a baſon of gruel, or thin flour pap, with a ſpoonful or two of good ſound white wine in it, as free as poſſible from acidity.

When the ſudorific proceſs has been ſucceſsfully continued, all the ſymptoms grow milder; and if the patient break out in a raſh, or effloreſcent

cent eruptions, or boils, the diseafe will foon be removed.

Should it be objected, that uncovering and expofing the patient while fweating, when he rifes to go to ftool, is an inconveniency which militates againft my doctrine; I anfwer, that where there are proper attendants and utenfils, the patient need not be expofed, nor moved from his bed; and that when once a complete and univerfal fweat is raifed, the neceffity for expofing the patient at all, will foon be at an end, as the difeafe fometimes fuddenly difappears.

When a patient is firft covered up, and has taken his diaphoretic medicine and drinks, in the beginning of a dyfentery, particularly in hot climates, it may reafonably be expected, if he be young, grofs, or plethoric, that fometimes, inftead of fweating, he become reftlefs and hot; his ftomach loaded, and his fkin dry: here bleeding, or an emetic, is neceffary, which never fails to difpofe the body to fweat. A very fmall quantity of blood taken away, and what almoft any patient may fpare without injury, or ten grains of ipecacuanha, when the patient is weak, will generally be fufficient to anfwer the end.

It happens fometimes alfo in the dyfentery, and very commonly in fevers, that large dofes of James's Powder, and other antimonials, are given, and frequently repeated, without caufing perfpiration. Here I have found practitioners perplexed,

plexed, and making wrong conclusions;—finding neither perspiration, nor any other evacuation produced, they still persist in the antimonial, and increase the dose, supposing a great deal must do what a little will not; which only increases the fever and brings on delirium, unless a sudden and violent operation, upwards or downwards, breaks forth, which may endanger the safety of the patient.

It has always been a rule with me, to desist from any powerful or active medicine, or to combine something with it, where a common dose, or quantity, has not produced the desired effect, whether vomiting, purging, or sweating be intended; or whether the medicine be bark, opium, mercury, or antimony.

Where antimonials have been taken, as I have here mentioned, without a proper effect, and where bleeding, or vomiting, may be improper, a dose of laudanum acts like a charm, and brings on immediate relaxation of the vessels, and profuse sweat. Nothing can be more useful in this disease than determining the fluids to the surface. But even where no apparent effect arises, success has attended the use of this powder, and how this comes about, I shall afterwards endeavour to explain.

PRACTICAL OBSERVATIONS.

SECT. XIII.

OF THE USE OF MERCURY IN DYSENTERY.

In the early ſtage of Dyſentery, in my voyage to the Eaſt-Indies, I found, ſays Dr. Clark, the following method of cure moſt effectual. Firſt of all, the emetic powder, No. 1. was preſcribed, which ſeldom failed to operate powerfully, and generally relieved both the ſtomach and bowels.

Next morning I gave the preſcription, No. 2. or

No. 1. R. Pulveris ipecacuanhæ grana decem,
Antimonii tartariſati grana duo; miſce.
Capiatur à granis ſex ad grana duodecim, ſingulis horis, donec ſuperveniat vomitus aut catharſis.

That is, take of
Ipecacuanha powder, ten grains,
Tartarized antimony, two grains.
Mix them. Take from ſix to twelve grains every hour, until vomiting or purging comes on.

No. 2. R. Magneſiæ vitriolatæ ab unciâ ad unciam cum ſemiſſe,
Aquæ ferventis uncias ſeptem,
* Succi limonis ſemunciam,
Spiritûs vini gallici,
Sacchari purificati, ſingulorum drachmas tres; miſce.
Capiatur partitis vicibus.

* Vel cryſtallorum tartari quantum ſatis ſit.

or 3; and, unlefs the pain of the bowels and tenefmus abated, one of thefe purges was repeated for the four following days, in fuch dofes as to keep up a free difcharge by ftool. During this courfe the opiate, No. 4, was taken every night at bed-time. But, when the irritation in the rectum was violent, emollient and anodyne clyfters gave more relief. For this purpofe I directed fix ounces of a decoction of linfeed, or ftarch, with

That is, take of

Vitriolated Magnefia, from an ounce to an ounce and a half,
Boiling water, feven ounces,
Lemon juice, half an ounce,
Brandy,
White fugar, of each three drachms;
To be taken in divided dofes.

No. 3. R. Olei ricini unciam cum femiffe,
Spiritùs vinii gallici; vel
Tincturæ cardamomi compofitæ femunciam; mifce.
Capiatur partitis vicibus, phialâ prius agitatâ.

That is, take of

Caftor oil, an ounce and a half,
Brandy, or compound tincture of cardamons, half an ounce. Mix them.
To be taken in divided dofes, firft fhaking the phial.

No. 4. R. Opii purificati in pulverem triti,
Pulveris ipecacuanhæ, fingulorum drachmam,
Confervæ rofæ quantum fatis fit ut fiant pilulæ numero fexaginta.
Capiantur, pro re natâ, una, duæ, vel tres, horâ decubitûs.

That

with forty or fifty drops of tincture of opium, to be injected.

If the disease continued longer, and it appeared to be necessary to restrain the purging, I gave small doses of ipecacuanha and opium, having recourse to laxatives from time to time, if the gripes returned.

In the Bengal dysentery, the same method was followed, only when the disease was accompanied with fever, the decoction, No. 5, generally answered better than the emetic powder: and, in most cases it was found indispensably necessary, both to prevent putrefaction, and to reduce the fever, to use the evacuating method alternately with the decoction of bark, No. 6.

Any

That is, take of
Purified opium, in powder,
Ipecacuanha powder, of each a drachm,
Conserve of roses, as much as is sufficient to make sixty pills.
One, two, or three to be taken at the hour of bed-time.

No. 5. R. Decocti tamarindorum ferventis uncias octo,
Antimonii tartarisati à granis duobus ad grana quatuor; misce.
Capiatur uncia singulis semihoris.

That is, take of
Boiling decoction of tamarinds, eight ounces,
Tartarised antimony from two to four grains.
Mix them. Take an ounce every half hour.

No. 6. R. Pulveris corticis peruviani unciam,
Cascarillæ semunciam,
Aquæ puræ libram:
Coque per sextam horæ partem, sub finem injiciens.

Corticis

Any other method of cure I always found very ineffectual; and, unless the fever or symptoms of putrefaction demanded the intermediate use of other remedies, considerable ground was lost by omitting the purgatives for one day. These continued evacuations may, at first sight, appear hard in a disease attended with symptoms of putrefaction and great prostration of strength; yet certainly every one acquainted with the matter will readily allow, that a continual fruitless straining, and painful tenesmus, will weaken the patient more in twenty-four hours, than three or four easy motions, procured in the same time by a gentle cathartic.

Corticis cinnamomi drachmam:
Ferventi liquori colato adde
Gummi arabici drachmas duas,
Tincturæ corticis peruviani uncias duas; misce.
Capiantur duæ vel tres unciæ secundâ quaqua horâ, addendo, pro rê natâ, aliquot guttas tincturæ opii.

That is, take of
Peruvian bark in powder, an ounce,
Cascarilla, half an ounce,
Water, a pound.
Boil for ten minutes, adding at the end of that time,
Cinnamon, a drachm.
Strain off the liquor, and add to it while hot,
Gum arabic, two drachms,
Tincture of bark, two ounces.
Two or three ounces are to be taken every second hour, adding, as occasion may require, a few drops of tincture of opium.

If

If the dyſentery attack with vomiting and irritability of ſtomach, the ſame remedies muſt be applied as directed, for theſe ſymptoms, in the remittent fever. When the griping and pains in the bowels are very ſevere in the beginning of the diſeaſe, fomentations, the warm bath, and a large bliſter to the abdomen, are of the utmoſt conſequence, not only to aſſuage the torment of the patient, but alſo to obviate inflammation, which, in the worſt caſes, is very apt to end ſpeedily in gangrene.

The regimen ought to be much the ſame as that already recommended in the remittent fever. And when the diſeaſe is accompanied with putrid ſymptoms, nothing will be found to anſwer better than ripe fruits. In the dyſentery at Bengal, when theſe could not be procured for the common ſailors, I have, with great advantage, added *vinegar* to the drinks, and never found that this acid increaſed their gripings.

But when the diſeaſe continues long, and the patient begins to recover, both ripe fruits and vegetable acids ſhould be given ſparingly, as they are *then* apt to bring on a return of the diſorder.

The food ſhould conſiſt of ſmooth farinaceous ſubſtances, ſuch as rice-jelly, (called in India Congee) water-gruel, ſago, or ſalep, to which wine ſhould be added, even freely when neceſſary, to ſupport the ſtrength of the patient. The moſt proper drinks are barley water, thin rice gruel;

and when the gripes are ſevere, and demulcents indicated, almond milk*, or the decoction of ſtarch, No. 7.

Through the whole courſe of the diſeaſe, the air ought to be kept cool and pure, particularly on board of ſhip, where many patients are often crowded together; for unleſs the ſick birth be frequently waſhed, fumigated, and ſprinkled with vinegar, it will be in vain to think of removing the diſeaſe or prevent it from becoming general, by the moſt powerful remedies given internally.

In the convaleſcent ſtate, the patient ſhould abſtain from all animal food, except light ſoups. But when the bowels have, in ſome meaſure, recovered their tone, a moderate uſe of ſuch fleſh meats as are the leaſt ſtimulating, may be allowed: and for the patient's greater ſecurity, a doſe of

* Lac Amygdalæ Ph. Lond.

No. 7. R. Amyli triti drachmas ſex, aquæ puræ libras tres:
Coque ad libras duas, et adde ſub finem coctionis,
Corticis cinnamomi drachmam,
Gummi arabici ſemunciam; cola.
Capiatur pro potu communi.

That is, take of
Bruiſed ſtarch, ſix drachms,
Water, three pounds,
Boil to two pounds, and add at the end,
Cinnamon, one drachm.
Gum arabic, half an ounce.
To be taken as common drink.

the

the infuſion of the Peruvian bark, No. 8, or colombo, eight or ten grains ſhould be taken twice or thrice a day.

When the ſtrength is in ſome meaſure reſtored, the uſe of the cold bath, gentle exerciſe in a carriage, but particularly a change of climate, are the moſt effectual means to confirm the cure.

Such was the method of treatment I purſued in recent dyſenteries, in my voyages to India; which, indeed, only differed from the practice of authors, at that time, in adminiſtering gentle purgatives daily, till the diſtemper began to yield. But when the flux was neglected in the beginning, the recovery of the patient became precarious, and all the medicines I was then acquainted with, afforded little more than mere palliating.

Since that period, I have often found the dyſentery, in this country, too obſtinate in its nature to yield to ſuch ſimple treatment, even when called early in to that diſtemper. The inſufficiency of the eſtabliſhed practice, after the complaint is confirmed, has, indeed, been acknowledged by

No. 8. R. Pulveris corticis peruviani unciam,
Aquæ cinnamomi bullientis uncias decem:
Infunde per horas quatuor; deinde cum expreſſione cola.
Capiantur unciæ duæ vel tres ſingulis ſemihoris.

That is, take of
Bark in powder, one ounce,
Cinnamon water boiling, ten ounces.
Infuſe for four hours; then ſtrain off.
Two or three ounces to be taken every half hour.

thoſe

those most conversant in this disease *; and, when it is considered, that inflammation and ulceration so often affect the intestines, it is not surprising that the feeble means hitherto proposed, have, in such cases, so generally proved ineffectual.

For several years past, when the dysentery has resisted the common mode of practice, I have administered, continues Dr. Clark, mercury with the

* Dr. Cleghorn observes, that almost all the dysenteries which fell under his observation, unless they were speedily cured in the beginning, at best proved obstinate, and too frequently fatal, in spite of the many boasted specifics for this distemper. —*Diseases of Minorca*, page 228.

The candid Dr. Donald Monro also observes, upon my first being employed in the military hospitals in Germany, I was surprised to see so many of the old dysentric cases end fatally; and imagined I had not fallen upon the right method of treating them: but upon consulting the other physical people employed in the same service, I found them as unsuccessful as myself, after having tried a variety of remedies: and at last I was convinced that the disorder will often end fatally, notwithstanding the use of what are esteemed the most efficacious remedies, when once it has continued long, and injured the structure of the intestines to a certain degree; and that when this disorder is violent, the cure principally depends upon an early and speedy application of proper remedies, before the strength be exhausted, or the structure of the bowels too much hurt. The bad success we had in treating these old cases, may, perhaps, surprise those who never practised, except in healthful cities, where the disease is commonly mild, and people apply *soon* for advice. But all those gentlemen who have had the care of military hospitals, where the dysentery has been frequent, and where the sick have often been sent a great way before they reached the hospitals, must be convinced of the truth of what is here asserted."—*Observations on the Means of preserving the Health of Soldiers.* Vol. I. page 336.

greatest

greateſt ſucceſs; and am thoroughly perſuaded it is poſſeſſed of powers to remove inflammation and ulceration of the inteſtines, which are the chief cauſes of death in this diſtemper.

In the year 1781, the dyſentery was introduced into a dock-yard, in this neighbourhood, by ſome ſailors who returned from abroad ill of the complaint. The diſeaſe ſoon ſpread amongſt the workmen, and ſeveral died. I was ſent to viſit a perſon who had laboured fourteen days under the diſeaſe, and had taken the uſual medicines, without ever procuring the leaſt relief, or occaſioning one feculent evacuation. In ſpite of every remedy, he died in a few days. I viſited ſeveral others, who had been alſo treated unſucceſsfully in the uſual manner; and preſcribed from five to ten grains of calomel, with one or two grains of opium, every night at bed-time, with the occaſional uſe of a ſaline purgative. In a few days the bowels were opened, and the moſt threatening ſymptoms were ſoon removed. To thoſe in the chronic ſtage, ſmall doſes of calomel, with opium, were given every night; and ſometimes in the morning, with a purge at proper intervals; and *all whom I attended recovered*, except one patient, whoſe liver was much enlarged, and in a ſtate of ſuppuration when I firſt viſited him.

In autumn 1783, the dyſentery was epidemical in Newcaſtle and its neighbourhood. I was called to ſeveral caſes in private practice, which had reſiſted

refifted the common treatment; and attended fixty patients belonging to the difpenfary. *Calomel,* in almoft every inftance in which it was exhibited, foon fubdued the difeafe, or reduced it to the nature of a fimple diarrhœa.

In the following autumn the dyfentery was again prevalent. The fame remedy was tried in obftinate cafes, and every patient recovered.

Although in the above inftances of epidemic dyfentery, the fuperior efficacy of calomel feemed to be eftablifhed, yet I was ftill in doubt whether to impute its virtues to its purgative, or to its mercurial quality. But in the autumn of the year 1785, the dyfentery again made its appearance, and was attended, in many patients, with fo great irritability of the ftomach, that the common purgatives were immediately rejected. To two patients, in this fituation, I gave three grains of calomel, conjoined with opium, every four hours, which in both allayed the vomiting. By an inconfiderable quantity of mercury, the gums became tender: in confequence of which the gripes and tenefmus were inftantly relieved; natural evacuations followed; and health was fpeedily reftored, without the affiftance of any other medicine.

Being now thoroughly convinced of the advantages refulting from calomel as a mercurial, I gave it more freely during the courfe of the epidemic, and alfo recommended the practice to all

my

my medical friends in this neighbourhood. All of them have concurred in obferving, that they were much more fuccefsful than formerly; and that generally as foon as the medicine occafioned the flighteft tendernefs of the gums, the diftemper was either fpeedily removed, or became extremely tractable.

In prefcribing mercury in the dyfentery, the phyfician will be at the fame lofs with refpect to the quantity which may be requifite to affect the fyftem, as he is in other complaints. In fome patients twelve grains of calomel, in divided dofes, will bring on flight fymptoms of falivation. The majority, however, in this country, will bear from twenty to thirty grains; and, in a few inftances, it has been found neceffary to perfevere in its ufe, along with purgatives, till one drachm or more has been taken.

The dofe of calomel, in the early ftage of the dyfentery, fhould be always adapted to the violence of the diftemper. In the beginning it ought to be given from five to eight grains, with a fufficient quantity of opium to procure an alleviation of the gripings; and, after a few nights, the quantity fhould be diminifhed. In the acute ftage, a faline purge fhould be occafionally adminiftered, with a view to carry off acrid corrupted humours; and if it operate freely, it will generally afford the greateft relief: but in very obftinate cafes, the difeafe will feldom abate much of

its

its violence, till ſome degree of tenderneſs be perceived in the mouth. At the ſame time, however, care muſt be taken not to bring on any conſiderable degree of ſalivation, which will always prolong the recovery.

In the acute ſtage of the diſeaſe, I have always preferred calomel to every other preparation of mercury, on account of its laxative properties; and to render it more certainly ſo, and likewiſe to determine it to the ſurface, I at firſt combined it with a ſmall portion of tartar emetic*. But in my latter practice, I have generally added no other medicine to it, except opium.

In the chronic ſtage of the diſeaſe, in which the patient is always conſiderably debilitated, a ſalivation ought to be carefully avoided. Calomel ſhould, therefore, be only given in ſmall doſes, as an alterative, conjoined with opium. And if it ſtill, with ſuch an addition, prove too laxative, from two to four grains of crude quickſilver, extinguiſhed with mucilage of gum-arabic, ought to be ſubſtituted. In this ſtate of the diſeaſe a pill, compoſed of one grain or two of ipecacuanha, and half a grain of opium, with a ſufficient quantity of conſerve of roſes, ſhould be taken every morning, with the occaſional uſe of rhubarb, demulcents, abſorbents, or columbo, as may ſeem to be indicated.

* Antimonium tartariſatum, Ph. Lond.

But

But with a view to illuftrate this fubject more fully, I fhall fubjoin the following hiftories, which, it is hoped, will convey fome idea of the great obftinacy of the dyfentery in particular feafons; and alfo place the merit of the treatment by mercury in a proper light.

CASES OF THE DYSENTERY TREATED WITH MERCURY.

CASE 1.

William Dixon, aged 37, who had laboured under the dyfentery for nine days, was admitted to the Difpenfary on the 2d of Auguft, 1785. The gripes were intolerably fevere, the evacuations painful, and very frequent; and for above a week, he had paffed nothing except mucus tinged with blood. In the evening the calomel pills, No. 9, were prefcribed, and No. 10 during the day; and he was

No. 9. R. Calomelanos grana decem,
Antimonii tartarifati granum,
Conferva rofæ quantum fatis fit ut fiant pilulæ duæ.
Capiatur una pro rê natâ.

That is, take of
Calomel, ten grains,
Tartarifed antimony, a grain,
Conferve of rofes, as much as is fufficient to make two pills. One to be taken occafionally.

No. 10. R. Florum chamæmeli femunciam,
Kali præparati drachmas duas,
Aquæ bullientis uncias octo:

Infunde

was ordered to take one immediately, and the other in an hour, drinking with the latter barley-water, or thin gruel, to encourage their operation. At bed-time he took an opiate.

Auguſt 3d. He vomited once, and had three excrementitious evacuations after the pills began to operate; which mitigated his pain for two hours. But ſoon afterwards his complaints recurred with greater violence; and he had a fruitleſs motion to ſtool every hour through the night. An antimonial emetic was preſcribed, and five grains of calomel, with two grains of opium at bed-time. He was alſo ordered to take the purgative, No. 2. on the following morning.

4th. He reſted well from ten o'clock laſt night till four this morning, and had one eaſy motion before he took the purgative; which alſo operated five times. The gripes and teneſmus returning in the afternoon, with great violence, the calomel and opium were repeated.

For three nights longer he continued the calomel and opium, and took the ſaline purgative occaſionally;

Infunde per quatuor horas, et cola.
Capiantur duæ vel tres unciæ ter in die.

That is, take of
Chamomile flowers, half an ounce,
Prepared kali, two drachms,
Boiling water, eight ounces.
Infuſe for four hours, and ſtrain.
Two or three ounces are to be taken three times a day.

For No. 2, ſee page 177.

caſionally; by which means the diſeaſe was reduced to a ſimple diarrhœa; which was ſoon removed by ſmall doſes of ipecacuanha and opium, and two or three doſes of rhubarb.

CASE II.

Mary Laidler, aged 23, was admitted to the Diſpenſary on the 24th of Auguſt, 1785. She had been afflicted with the dyſentery for four days; and complained of great pain in her bowels, conſtant griping and teneſmus; and evacuated nothing but mucus tinged with blood. Her pulſe beat 112; ſhe was very thirſty; her head ached; and ſhe had hot and cold fits alternately. The calomel pills, No. 10. were given as in the former caſe; which vomited her twice, and produced two feculent evacuations. At bedtime an anodyne was preſcribed, and in the morning a doſe of ſalts.

Auguſt 25th. She vomited the ſalts in the morning, and continued in great pain through the whole day. Six grains of calomel, with two grains of opium, made into pills with conſerve of roſes, were ordered at bed-time.

26th. She had a tolerable night, but the gripes and teneſmus returning in the morning, the ſaline purgative was given, which her ſtomach retained, and during its operation gave great relief: but

For No. 10, ſee page 188.

ſoon

ſoon afterwards the painful ſymptoms recurred with their former violence. The calomel pills, with opium, were repeated at bed-time.

Notwithſtanding the frequent repetition of purgatives, her diſeaſe did not yield till the firſt of September, when ſhe had taken half a drachm of calomel. Her mouth then became tender; the gripes and teneſmus left her; and her ſtools, which were of a green colour, were evacuated with eaſe. A gentle ſalivation continued to the 7th of September; her evacuations became natural, and ſhe ſeldom paſſed more than one ſtool in the twenty-four hours.

On the 14th of September, after ſome error in diet, ſhe had a return of the gripes and teneſmus, which were removed by one doſe of calomel and opium. On the following morning ſhe took a doſe of ſalts. An opiate was continued at bed-time for ſome nights longer; and, on the 17th, ſhe was diſmiſſed, being perfectly cured.

CASE III.

Elizabeth Laidler, aged 17, the ſiſter of the former patient, was ſeized with the dyſentery on the 23d of Auguſt. The ſymptoms being very violent, the calomel pills, with emetic tartar, were preſcribed: and, as her diſeaſe was ſo recent, ſhe took nothing more for ſome days, than an anodyne at bed-time, and a ſaline purge occaſionally in the morning. Her complaints becoming

ing worſe, on the 27th ſhe was directed to take two pills, with eight grains of calomel, and two grains of opium, at bed-time.

Auguſt 28th. The gripes and teneſmus being ſevere in the morning, the ſaline purgative was preſcribed, which gave two feculent evacuations. But in the afternoon all her complaints were again aggravated, and ſhe paſſed twelve ſmall ſlimy ſtools, ſome of them variegated with green and yellow, and ſome tinged with blood. Three grains of calomel, with half a grain of opium, were directed to be taken every four hours, and one ſcruple of Dover's powder at bed-time.

On the 29th I did not viſit her: but ſhe was better than formerly; paſſed three excrementitious ſtools in the day, and had a good night.

On the 30th, the gripes and pain of her bowels returning with violence, the ſaline purgative was repeated; and as it only afforded temporary eaſe, five grains of calomel, with one ſcruple of Dover's powder, were given, in the form of a bolus, at bed-time.

September 1ſt. Having tak[illegible]n twenty grains of calomel, ſince the 28th ult. ſhe, this day, complained of her mouth; but ſaid that her bowels were totally relieved. From this time ſhe had one or two feculent evacuations daily. On the 7th, her mouth was quite well. She had no return of the dyſentric ſymptoms after her mouth became affected, nor had occaſion for any other

medicines, except an opiate at nights, and a dofe or two of rhubarb. On the 17th of September, her health being eftablifhed, fhe was difmiffed.

Her brother was alfo violently attacked with the fame diftemper, which was removed in a few days, by taking every night calomel and opium, with the occafional ufe of laxatives. Her mother likewife was feized with the dyfentery, but in a milder form, which foon yielded to the common treatment.

CASE IV.

Chriftian Hall, aged 21, from lying in the fame bed with a child who had the dyfentery, caught the difeafe on the 20th of Auguft. On the 22d, the apothecary of the Difpenfary prefcribed the calomel pills, with emetic tartar, and on the following morning the faline purgative.

Auguft 23d. I firft vifited her. She was feverifh, and had received nothing but temporary relief from the above medicines; the gripes, tenefmus, and fruitlefs attempts for an evacuation being ftill exceedingly urgent. Eight grains of calomel, with one of opium, were given at bed-time, and the purgative was ordered to be again taken in the morning.

24th. She had four feculent evacuations; but in the afternoon all her complaints returned. A dofe of Dover's powder was given at bed-time. And five grains of calomel, and one grain of opium,

opium; were directed to be formed into four pills, one of which was ordered to be given in the morning, and to be repeated every four hours.

These pills she continued regularly till as many were taken as contained fifteen grains of calomel. Her disease then yielded. Her stools became natural, and she was in a constant uniform perspiration. On the 24th of September, being free from all complaints, she was dismissed.

CASE V.

Walter Lewans, aged 50, was seized with the dysentery, which he caught from lying in the same room with his wife, and three children, who were ill of that distemper. On the 26th of August, being the second day of his confinement, I visited him; and as his disease was very violent, he was ordered the calomel pills, with emetic tartar, No. 9, and half a drachm of Dover's powder at bed-time.

August 27th. The pills having occasioned no evacuations, the saline purgative was given in the morning, which procured a few stools, and, during its operation, some abatement of the gripes and tenesmus. But in the evening, when I visited him, he was in great torment from the pain in his bowels, and from a continual desire to go to stool, passing nothing but bloody mucus. Fomentations were directed to be applied fre-

* For No. 9, see page 189.

 quently

quently to his bowels; and Dover's powder, with five grains of calomel, in a bolus, was preſcribed at bed-time. Two ounces of Epſom ſalts, diſſolved in a pint of water, were alſo ordered to be given in the morning, in divided doſes.

28th. The gripes and ſtraining were almoſt conſtant laſt night. This day he paſſed ſeveral green ſlimy ſtools with the ſalts, but without much abatement of the ſymptoms. An anodyne clyſter was exhibited, which was immediately rejected. The bolus was repeated at bed-time.

29th. All the ſymptoms continued equally ſevere. He had ſcarcely a moment's reſpite from the cloſe-ſtool, but paſſed nothing, except ragged mucous filaments tinged with blood. The fomentations giving no relief, and a hiccup being urgent, a bliſter was applied to the abdomen. Ten grains of calomel, and two grains of opium, were made up into four ſoft pills, with a little conſerve of roſes, one of which was directed to be given every four hours.

30th. He was ſomething eaſier. Having had no feculent ſtool, eight grains of calomel, with one grain of emetic tartar, were ordered at bed-time, and a doſe of Epſom ſalts in the morning.

September 1ſt. He had three feculent ſtools, but the gripes and teneſmus ſoon recurred with their former violence. Two grains of calomel, and a quarter of a grain of opium, were preſcribed

every

every four hours; with the decoction, No. 7, for common drink.

On the 4th, his mouth became a little affected with the calomel. The gripes and teneſmus left him, and his ſtools continued natural for this and the following day. But on the 6th of September the griping and teneſmus, and the bloody mucous ſtools returned. A doſe of ſalts was given, which procured larger feculent evacuations than formerly.

After this ſmall doſes of ipecacuanha and opium were preſcribed, with a purge occaſionally; and Dover's powder at bed-time. Sometimes his evacuations were natural, and voided with eaſe; ſometimes the contrary, and attended with great teneſmus. Purgatives ſeemed to be attended with no advantage, and clyſters gave no relief to the teneſmus, as they were inſtantly rejected. His mouth was ſtill a little tender from the mercury: he took his food better, and the hiccup had diſappeared. The pills, with ipecacuanha and opium, were continued; and he was ordered the ſuet decoction*, with a view to ſheathe the inteſtines.

For No. 7, ſee page 182.

* Take two ounces of freſh ſuet, and a pint of new milk, ſet them over a ſlow fire, and keep ſtirring them till they boil; then add a ſpoonful of ſtarch finely powdered, and let them boil together.

On the 15th of September he had recruited ſome ſtrength; and had got free of all the painful ſymptoms, except the teneſmus, which was now attended with *prolapſus ani*. His mouth being quite well, five grains of calomel were again given at bed-time, for two or three nights in ſucceſſion. After this, his complaints were ſo much mitigated, that clyſters could be retained: from a ſtate of great weakneſs and emaciation, he was gradually reſtored to health, and was able to return to his work on the 8th of October.

CASE VI.

As the dyſentery, in autumn 1785, was, in ſeveral inſtances, complicated with a low remittent fever, the following hiſtory is introduced with a view to ſhew the application of the practice to ſuch caſes.

George Henderſon, aged 18, was admitted to the Diſpenſary, on the 30th of Auguſt, 1785. He had been feveriſh for eight days, complained of univerſal pains, thirſt, head-ach, ſlight rigors, and ſevere gripes and teneſmus, although he paſſed only two jagged ſlimy ſtools daily. He was ſick at the ſtomach, and his pulſe beat 120, but feeble. The calomel pills, with emetic tartar, No. 9, were preſcribed, which vomited him

For No. 9, ſee page 189.

four times, and occaſioned ſix copious bilious ſtools, with ſome hardened lumps of feces. A draught, with antimonial wine and tincture of opium, was given at bed-time.

Auguſt 31ſt. He ſweated profuſely in the night. His pulſe, this morning, was reduced to 100. The teneſmus was removed, but he was ſtill tormented with gripes. Five grains of calomel, with opium, were directed at bed-time, and the ſaline purgative, No. 2, in the morning.

September 1ſt. He had nine green feculent evacuations with the purgative: but he ſtill complained of gripes and teneſmus. Appearing weak, three grains of calomel only, with one grain of opium, were preſcribed at bed-time, for this and the two following nights.

His ſtools became feculent; and he only paſſed four or five daily. On the 4th of September, he was ſeized with rigors: he became afterwards hot, his pulſe roſe to 120; and he appeared conſiderably debilitated. Two ounces of the decoction of the bark were preſcribed every two hours, with a few drops of tincture of opium, if it ſeemed to run off by the bowels; and an anodyne draught was given at bed-time.

5th. He ſweated during the whole night. During this day he paſſed eight bilious offenſive ſtools, but without any teneſmus. The medicines were continued, but at night he was more feveriſh.

For No. 2, ſee page 177.

Next day the dyſenteric ſymptoms totally diſappeared, and the diſtemper now aſſumed the form of a low fever, and was attended with nocturnal exacerbations and delirium. On the 8th of September his bowels were able to bear the bark in ſubſtance. He was ſupported with a cordial regimen, and took an opiate every night at bed-time. His fever was totally ſubdued by the 15th of the month; and he ſoon afterwards recovered his uſual ſtate of health.

CASE VII.

A lady, of a delicate conſtitution, aged 25, ſubject to frequent returns of hæmoptoe, and to a ſore throat, attended with ſpects and ſlight ulceration; on the 2d of September, 1785, was attacked with the dyſentery, and in the night paſſed fifteen mucous evacuations, tinged with blood, and attended with ſevere gripes and teneſmus. A ſaline purgative and anodyne clyſter were directed by her ſurgeon. On the evening of the 3d of September, all her complaints were much aggravated, and ſhe had a conſtant deſire to retch. Five grains of calomel, with half a grain of emetic tartar, and one grain of opium, were ordered.

September 4th. She vomited frequently after the pills, and in the night had twelve bilious evacuations, ſome of them larger than before; but in the morning ſhe was in great torment in her bowels, and her ſtomach rejected every thing.

Fomenta-

Fomentations, and an anodyne clyſter, were ordered, to give ſome alleviation to the pain: a large bliſter was afterwards applied to the abdomen, and a pill, with one grain of calomel, and a quarter of a grain of opium, and a ſaline draught in the act of effervеſcence, were directed to be taken frequently. The vomiting and painful ſymptoms were removed in the evening, and ſhe afterwards paſſed a good night.

5th. Being ſtill eaſy, but having had no feculent evacuation, caſtor oil was directed in the morning; but from her not perſevering long enough in its uſe, it had no effect. An emollient clyſter was ordered to be exhibited, and three grains of calomel at bed-time.

6th. She had a tolerable night. The gripes and teneſmus being urgent, a decoction of tamarinds, with ſenna and ſalts, was preſcribed, in ſeparate draughts, this morning. The two firſt evacuations were excrementitious, but ſhe afterwards had other two quite thin, and as black as ink. This alarmed me much, as I never had ſeen any perſon recover from the dyſentery, who had paſſed ſtools of ſuch a colour. Soon afterwards her pulſe roſe to 120; her ſkin became cold and clammy, and ſhe was ſeized with a violent ſpaſmodic pain in the cheſt. A bladder with hot water was applied to the ſeat of pain, an opiate was given, and the pills with calomel,

as prescribed on the 4th, were ordered to be regularly persevered in.

7th. She had a much better night than could have been expected. The gripes and pains returning in the morning, a saline purgative was prescribed. She passed in the day four feculent stools, two stained with green and yellow; and two, making about the quantity of a pint, of the same black colour as before. A dose of calomel and opium was given at bed-time.

On the 8th, the gripes and tenesmus being very severe, the calomel and opium were repeated at bed-time: and on the morning of the 9th, having considerable nausea and tension over the whole abdomen, the purgative was again given in spoonfuls; which procured several black evacuations; but the pain continued without abatement till she got her anodyne at bed-time.

For the two following days she appeared much better; her stools were sometimes natural, sometimes variegated with green and yellow, and sometimes quite black. The infusion of bark was prescribed, but she thought it gave no relief, and therefore did not use it liberally.

On the 11th, the nausea, sickness, and gripes returned with violence: her stools, however, were feculent, but often black, with a greenish cast. From this time to the 17th, opium and calomel were given regularly at bed-time, with a laxative occasionally. Although she took about half

half a drachm of calomel, her mouth was never affected. The dysenteric symptoms, however, now totally disappeared. But her recovery was protracted by an attack of her usual sore throat; and a troublesome suppression of urine, to which she had been also formerly subject.

CASE VIII.

A married lady, aged about 40, on the 27th of August, 1785, was seized with the dysentery, which resisted many judicious medicines directed by the the late Mr. Hawdon. On the 5th of September I first visited her. She was then so much reduced, that she could not sit up in bed. She laboured under continul nausea, vomited frequently, and complained of incessant gripes and tenesmus. She had been forced to go to the close stool above thirty times during the last twenty-four hours; but passed nothing except mucus tinged with blood. Her pulse beat 120; she complained of great anxiety and restlessness; and her stomach and bowels were very much inflated, and gave her great pain upon the least pressure. Her countenance was pallid, her eyes sunk, and her whole features exhibited the appearance of a person worn out with pain. She also had clammy sweats on her face and neck, slight hiccup, and complained much of pain in her back and loins, attended with frequent solicitations to make urine, which was hot, and never voided

voided except when ſhe went to ſtool. In this dangerous ſtate a large bliſter was ordered to be applied to the umbilical region, after the uſe of fomentations, and five grains of calomel, with two of opium, were preſcribed at bed-time; a decoction of tamarinds, with Rochelle ſalt*, was ordered to be taken in the morning by ſpoonfuls till it operated.

Sept. 6th. The ſickneſs and vomiting abated as ſoon as the bliſter began to operate, and ſhe paſſed a better night than formerly. In the morning ſhe had five evacuations, attended with leſs gripes; and after taking the purgative, ſhe had twelve motions, ſome of them feculent, and ſome thin and bilious. In the evening her evacuations were again mucous and bloody, attended with ſevere griping and teneſmus. Three grains of calomel, with two of opium, were preſcribed at bed-time.

7th. She reſted ſound in the beginning of the night. In the morning her evacuations were ſlimy, ſmall, and frequent; ſome tinged with blood, and others with green bile. The calomel and opium were repeated, and the purgative ordered to be taken in the morning.

8th. She was in an univerſal ſweat this morning, and her pulſe beat 100 pulſations in a minute. Her evacuations were feculent and bilious;

* Natron Tartariſatum Ph. Lond.

and

and the gripes and tenefmus were much relieved. Having now the utmoft averfion to medicine, nothing was ordered except calomel and opium at bed-time.

On the 10th, her ftools being very frequent and more copious, one grain of ipecacuanha made into a draught with cinnamon water and cordial confection*, was ordered every four hours, with a few drops of tincture of opium. Her ftools being reftrained, five grains of calomel were given at bed-time, with fifteen drops of tincture of opium.

From this time to the 13th, fhe continued the calomel and opium. Her ftools were generally excrementitious; but fhe had the hiccup and forenefs of the abdomen upon the leaft preffure, and continued feverifh. The infufion of bark, with tincture of opium, was prefcribed. Having taken thirty-nine grains of calomel, an anodyne draught was ordered at bed-time.

For the five following days fhe took fupport better, and now, for the firft time, entertained hopes of recovery. Her mouth was a little fore; her evacuations were bilious and feculent, and voided with little pain.

On the 19th, her mouth was confiderably ulcerated, and fhe was in a gentle falivation. This day fhe paffed twenty feculent ftools: as fhe thought the infufion of the bark increafed her purging, the draughts with ipecacuanha, as pre-

* Conf. Aromatica Ph. Lond.

ſcribed on the 10th, were ſubſtituted, which ſoon moderated the looſeneſs.

From this to the 6th of October, ſhe continued to ſpit about one pint and a half in the twenty-four hours, when the ſalivation began to ſubſide. From the time her mouth ulcerated, the painful complaints of the bowels diſappeared, and towards the end of the ſalivation, ſhe had only one motion in three days. Having had no ſolicitation to make urine, and having voided none for a week paſt, one drachm of dulcified ſpirit of nitre* was given every four hours, in a ſaline draught, on the 6th of October, and on the following morning a gentle laxative. Her urine next day began to flow, the ulceration of the mouth ſoon diſappeared, and ſhe very rapidly recovered a ſtate of perfect health.

None of the patients to whom I had hitherto preſcribed mercury, in the dyſentery, having had ſo much ulceration of the mouth, I was exceedingly alarmed leſt a profuſe ſalivation, in ſo debilitated a ſubject, ſhould have proved fatal. But my fears were ſoon removed, as I found ſhe daily gained more ſtrength, took her nutriment better, and got free from the dyſenteric and febrile ſymptoms.

CASE IX.

Mrs. ——, aged 37, of a delicate make, and for ten years paſt ſubject at times to a profuſe

* Sp. Ætheris Nitroſi Ph. Lond.

hemorrhage from the nose, after waiting upon a relation who died of the dysentery, on the 2d of September, 1785, was seized with the same distemper, in a violent manner. Mr. Hawdon had prescribed an emetic, saline, and other purgatives, with opiates occasionally, which had only procured some temporary alleviation.

On the 11th of September I first visited her. Notwithstanding the use of an opiate, she had passed a bad night, and had been twelve times at the close-stool, but voided nothing except a little jagged mucus tinged with blood. Her pulse was 120; her tongue dry; her skin parched; and she complained of sickness, great pain in her bowels, of tenesmus and dysuria. Half an ounce of crystals of tartar was dissolved in a quart of barley-water, for common drink; and two pills, composed of five grains of calomel, and one of emetic tartar, were prescribed; the first to be taken at eleven, and the latter at twelve o'clock. In the evening, when I visited her again, she had passed fifteen stools of the colour and consistence of molasses, without gripes or tenesmus, and found herself very much relieved. Six grains of calomel, and two grains of opium, were directed at bedtime, and an infusion of tamarinds, with Rochelle salt, to be taken by spoonfuls in the morning.

On the 12th, when Mr. Hawdon and I visited her, she had passed two stools as black as ink; and through the day had twenty evacuations of the

the ſame colour, variegated with bile. Six grains of calomel, with opium, were preſcribed at bed-time. On the 13th, the purgative was repeated. She vomited a conſiderable quantity of green bile, and had fourteen ſtools in the day. The calomel and opium were again ordered. She drank butter-milk, and was allowed ripe fruit.

On the 14th, in the morning, ſhe vomited three times: as ſhe ſtill continued feveriſh, with much inflation of the bowels, the purgative was repeated, which relieved the gripes and teneſmus. In the afternoon, ten grains of Dover's powder were given in a bolus, and fifteen were ordered at bed-time. Two grains of calomel, with half a grain of opium, and a quarter of a grain of emetic tartar, were alſo preſcribed every four hours.

On the 15th and 16th, her complaints were much mitigated, and her evacuations were bilious, leſs frequent and excrementitious. Her pulſe, however, ſtill beat 120; ſhe was feeble, and had no deſire for nutriment. Having taken in all thirty-one grains of calomel, five grains more were preſcribed with opium, at bed-time; and afterwards its uſe was interdicted. Next morning a purgative was ordered.

For the two following days ſhe had only a diarrhœa; but ſoon afterwards ſhe was ſeized with a profuſe hemorrhage from the noſe: purple ſpots made their appearance in various parts of the body,

body, and blood began to ooze from her gums. Next day ſhe made bloody urine, and alſo paſſed coagulated blood with her ſtools, which were now of a natural conſiſtence. The hemorrhage exhauſted her much; but being free from the painful complaints of her bowels, ſhe was in better ſpirits than could have been expected. As her ſtomach retained every thing, lemon juice was given freely in panado and gruel, with port wine. The bark was injected in the form of a clyſter, and exhibited liberally by the mouth, both in decoction and ſubſtance. For two or three days blood kept oozing from her noſe, gums, or uterus; and the ſlighteſt preſſure on any part of her body occaſioned an *ecchymoſis*. But by taking plenty of ſupport, and the bark freely, with allum whey, every alarming ſymptom diſappeared in a week, and ſhe was ſpeedily reſtored to a better ſtate of health than ſhe had formerly enjoyed.

This is the only caſe which has occurred in my practice, where a diſſolved ſtate of the blood took place in the dyſentery during the mercurial courſe, although I have preſcribed the medicine to ſome hundreds of patients. I therefore cannot impute theſe alarming ſymptoms to the effects of calomel, but to a gradual corruption of the humours induced by a debilitating infectious diſeaſe. A hiſtory of the ſame nature has already been re-

lated* where the patient had not taken a ſingle grain of mercury.

CASE X.

Ralph Bamborrough, aged 34, was ſeized with ſymptoms of cholic, which terminated in the dyſentery on the 5th of September. On the 9th he was admitted to the Diſpenſary. His pulſe beat 100, the gripes and teneſmus were very ſevere, and, for four days paſt, he had above forty fruitleſs efforts to ſtool, every twenty-four hours. Two grains of emetic tartar, diſſolved in boiling water, were added to the ſaline purgative, No. 2, which procured twelve feculent evacuations; but his complaints recurring with violence, ſix grains of calomel and two of opium were given at bedtime.

On the 10th, he had three bilious ſtools in the morning: he was greatly relieved, and his pulſe was reduced to 84. In the afternoon the pain in his bowels became inſufferable, and he was conſtantly at the cloſe-ſtool, but paſſed nothing except ſlime and blood. The calomel and opium were repeated, which gave inſtant relief.

On the following morning the ſaline purgative was taken. But as his complaints did not yield, the calomel and opium were continued every

* See page 292 of Clark on Diſeaſes of Hot Climates.
For No. 2, ſee page 177.

night

night, at bed-time, till the 13th of September. His mouth then became ſlightly affected, and continued tender till the 18th. From this period the gripes and teneſmus totally diſappeared. He had ſometimes only one natural evacuation, in the twenty-four hours, and never more than three. On the 20th of September he was free from every complaint, except weakneſs, and in a few days returned to his labour.

One of his children, aged one year, took the complaint, with continual vomiting, griping, and teneſmus, and paſſed nothing but blood: being totally neglected, I found her dying in convulſions on the fourth day of the diſtemper.

His other child, aged five, was ſeized alſo in a violent manner; four grains of calomel, with opium, were given every night at bed-time, with a purge occaſionally; but the diſeaſe did not give way till the mouth was ſlightly affected, and then it became extremely tractable.

His wife was alſo attacked with the dyſentery, which required the uſe of calomel, and ſhe ſpeedily recovered.

CASE XI.

Dorothy Ruſſel, aged 23, was admitted to the Diſpenſary on the 8th of November, 1785. She had been afflicted with the dyſentery for eight days; and her diſorder had increaſed ſo much, that ſhe paſſed above twenty evacuations every

 hour,

hour, attended with ſevere pain in her bowels and teneſmus. Her pulſe beat 120; ſhe was very thirſty, and much reduced. The antimonial emetic, No. 1, was preſcribed. At bed-time ſhe took a bolus, with one ſcruple of Dover's powder, and ſix grains of calomel.

November 9th. Theſe medicines had afforded much relief, and ſhe ſlept till one o'clock in the morning. From that time till eight, ſhe had twenty efforts to ſtool, and was in great pain in her bowels. Fomentations were directed; and the ſaline purgative, which procured eight large bilious feculent evacuations. In the afternoon all the former ſymptoms recurred with violence: her pulſe beat 140, and ſhe had continual nauſea. Ten grains of Dover's powder, and two grains of calomel, were ordered at four o'clock; and five grains of calomel, with two of opium, at bed-time.

10th. She was tolerably eaſy in the beginning of the night; but all her complaints returned after the effect of the opium was over. One grain and a half of calomel were ordered to be taken every four hours. When ſhe was viſited at four o'clock in the afternoon, ſhe was ſtill very feveriſh, much griped, and had paſſed thirty-two ſtools during the laſt twenty hours, which contained nothing except blood and mucus. One ſcruple

For No. 1, ſee page 177.

of

of Dover's powder, with four grains of calomel, was ordered at bed-time, and a dose of salts in the morning.

11th. Her pulse beat 140; the nausea, gripes, and tenesmus, were very severe, and the salts scarcely afforded temporary relief. Fomentations were ordered to the abdomen, and afterwards a large blister. An anodyne clyster was administered at four in the afternoon, and the calomel and opium at bed-time.

12th. She was easier in the night. Through the day, she passed ten stools as black as ink, with less pain than formerly; but her pulse still continued to beat about 140 pulsations in a minute. She was feebler, and had some hiccup. The anodyne clyster was given in the afternoon. She had now taken twenty-nine grains of calomel; but as it had not in the least affected her gums, and as she was now so weak as to be able to take little medicine, I was determined to persevere in the use of mercury, and to support her strength with smooth panado, rice jelly and wine. Five grains of calomel, with two of opium, were therefore given at bed-time.

13th. She was at stool every five minutes in the night, and was continually harassed with the hiccup and nausea. Her pulse, in the morning, beat 128. Her bowels were inflated, and sore upon the least pressure; her face was clammy, and her extremities were cold at times. As she was

much

much griped, whilſt I remained in her room, I perſuaded her to take the ſalts. In the afternoon her complaints were not relieved. The anodyne clyſter was given at four in the afternoon, and the calomel and opium at bed-time.

14th. The ſymptoms in the morning were the ſame as yeſterday. She had fourteen mucous bloody ſtools in the day. The gripes in the afternoon were leſs ſevere. Having taken thirty-nine grains of calomel, and her mouth being tender, it was omitted, and an anodyne preſcribed at bed-time.

15th. She was eaſier this day; paſſed twelve ſtools, ſome of which were feculent. The anodyne clyſter was given at four o'clock in the afternoon, and four grains of calomel, with opium, at bed-time.

16th. Her pulſe beat 128, and was ſtronger; ſhe had eight ſtools during the laſt ſixteen hours, moſt of them feculent, and intimately mixed with green bile. She alſo was in an univerſal warm ſweat. Her mouth being very little affected, the calomel and opium were repeated at bed-time.

For the ſix following days, as there ſtill remained conſiderable tenſion of the abdomen, and ſome degree of hiccup, the calomel was continued; ſometimes to the quantity of four, and ſometimes only three grains at bed-time. On the 22d, having taken in all ſeventy grains of calomel, and her

her mouth being ſore, it was laid aſide. Her ſtools were now commonly feculent, but ſometimes mixed with a little mucous, and ſometimes tinged with bile. She was generally in a moderate perſpiration, and her pulſe ſubſided to 100. Her appetite began to return, and ſhe ſhewed ſigns of a ſlow recovery.

On the 22d, as ſhe complained of a cough and general rawneſs in the throat and ſtomach, the ſpermaceti emulſion, with ſome mucilage of gum-arabic, was preſcribed. The opiate was continued at bed-time, and one grain of ipecacuanha, and a quarter of a grain of opium, given every four hours in a pill.

On the 27th, her mouth was perfectly well, but ſhe had three or four ſtools daily, ſometimes with ſlight gripes, till the 22d of December, when the diarrhœa was totally ſubdued. After this ſhe rapidly recovered her ſtrength, and was diſmiſſed in perfect health, on the 6th of January.

The preceding caſes I have purpoſely ſelected from the epidemic of 1785, becauſe the dyſentery was, in that ſeaſon, more obſtinate, in general, than it has ever occurred in my practice. I alſo attended the Diſpenſary patients twice, and ſometimes thrice daily, to note down the ſymptoms and the effects of the medicines. Mr. Wilkie, the apothecary to the charity, paid alſo un-

common

common attention to ſee the plan of treatment carried punctually into execution; and entered his obſervations on the letters of admiſſion. Of thirty-one obſtinate caſes of dyſentery admitted under my care, to whom mercury was given, I did not loſe a ſingle patient.

But in private practice I was not ſo ſucceſsful. For I loſt two patients to whom mercury was given. The firſt, indeed, had a mortification of the bowels, and died two days after I viſited her, being the eighth day of the diſtemper. The other patient I viſited on the ſecond day of the dyſentery; ſhe punctually complied with every direction; but paſſed ſtools as black as ink early in the diſtemper; and, on the fifteenth day, died of a mortification in the bowels. She took forty grains of calomel, which had no apparent effect on the gums, or general ſyſtem.

To illuſtrate the application of this practice to the chronic ſtage of the dyſentery, I ſhall here introduce the following caſe, where the diſeaſe was contracted in India: and, from my experience in this country, I am induced to conclude that mercury will ſeldom fail, except the inteſtines be deeply ulcerated, or a conſuming hectic formed.

CASE XII.

David Holliday, a ſeaman, aged 40, in the autumn of 1781, was ſeized with the dyſentery, whilſt he ſerved on board the Magnanime, off the

iſland

iſland of Ceylon. His complaint was tedious and obſtinate; and he remained two months at the naval hoſpital at Trincomalie before he recovered. On his paſſage from the Cape of Good Hope, in April, 1783, he was again ſeized with the dyſentery, which continued with ſeverity till he arrived in England in the end of May following.

On the 14th of October, 1785, he was admitted to the Newcaſtle Diſpenſary. He was then very much emaciated; his complexion was ſallow; and conſiderable fulneſs was obſervable in the region of the ſtomach. From the time he was attacked with the dyſentery off the Cape, he ſaid he had never been free from the complaint for one month at a time; and that he ſeldom of late had been free from it for one day. His evacuations were ſmall, and rarely exceeded ſix in number, in one day, but were generally attended with very ſevere gripes, and with much ſlime and blood. Two grains of calomel, and two of opium, were preſcribed every night at bed-time; and one grain and a half of ipecacuanha, with one drachm of cryſtals of tartar, every morning, in the form of a bolus.

When he had taken ſixteen grains of calomel, his mouth became a little tender, and he had only one eaſy motion daily. The calomel was now only repeated every alternate night.

His

His mouth getting quite well, and the dyſenteric ſtools returning, the calomel was again repeated every night; and as his colour and ſtrength appeared better at every viſit, it was perſevered in till the 13th of November, when he had taken in all thirty grains. The opiate was continued at bed-time, and the decoction of bark was preſcribed.

He continued free from every dyſenteric complaint for fourteen days; and, having almoſt recovered his uſual ſtrength, no farther medicines were thought neceſſary.

On the 29th of December, having caught cold, he had a ſlight diarrhœa, which he would have paid no regard to, had he not been deſired to come to the Diſpenſary on the ſlighteſt return of the complaint. An opiate was ordered every night at bed-time, and two grains of ipecacuanha in the morning, which ſpeedily removed the looſeneſs. Several months after this I ſaw him in perfect health, without having experienced the leaſt relapſe.

Although mercury had not been propoſed for the cure of the dyſentery when I was laſt in India, yet it appears, that ſoon afterwards its efficacy was confirmed in this diſeaſe*. But having had no

* Dr Bogue, of Titchfield, who had been at Calcutta in the year 1757, and communicated ſome ingenious obſervations which

no correſpondence with my acquaintance in that part of the world, this circumſtance did not come to my knowledge till the year 1787, when *An Eſſay on the efficacy of mercury in the cure of inflammatory diſeaſes, and the dyſentery*, appeared in the London Medical Journal, by the ingenious Dr. James Lind, of Windſor*.

The

which appeared in the firſt edition of Dr. Lind's *Eſſay on the Diſeaſes of Hot Climates*, which I regret was not publiſhed before I ſet out upon my firſt voyage, reviſited India in the year 1772, where he had, for three years, the ſuperintendance of the naval hoſpitals. He remarks, when he was laſt there, that mercury was more in uſe than formerly on the coaſt of Coromandel, and "That in bilious fluxes, when the common remedies failed, it was uſed with great ſucceſs, either by unction, or internally; obſtruction in ſome of the viſcera being then ſuppoſed to be the cauſe of the diſeaſe. Fluxes of long ſtanding were ſeldom cured without it."—See Dr. Lind's Eſſay on Hot Climates, fourth edition, publiſhed in 1788, page 99.

* One of the moſt uſeful purpoſes for which mercury has been given is, that of curing dyſenteries—a practice which has been lately followed with the greateſt ſucceſs on the Coromandel coaſt. It was firſt made known to the different ſurgeons in the Carnatic, by a letter ſent to each of them from the late Mr. Paiſly, firſt ſurgeon of the Preſidency of Madras.

Their method is as follows:—As ſoon as the patient begins to complain of ſymptoms of dyſentery, they give him repeatedly ſmall doſes of emetic tartar till it operates upwards and downwards, and thoroughly clears the ſtomach and bowels; after which they begin to give mercury combined with ipecacuanha, in the following form:

R. Argenti vivi ſcrupulum,
Pulv. gum. arabic. ſcrupulos duos,
Aq. puræ q. ſ.
Tere in mortar. marmor. ad perfect. extinct. globulorum, et adde

Pulv.

The dysentery, on the coast of Coromandel, is far less prevalent than in other parts of India; and, when it appears, is often supported by a

Pulv. rad. ipecacuan. drachmam
Fiat massa dividenda in pilulas lx. quarum capiat unam, tertiâ vel quartâ quaque horâ.

That is, take of
Quicksilver, a scruple,
Powder of gum-arabic, two scruples,
Water, as much as is sufficient.
Rub these in a mortar until the perfect extinction of a globule, and add
Ipecacuanha powder, a drachm.
Make into a mass, and divide into forty pills, of which take one every third or fourth hour.

This medicine they use till the urine, which in the beginning is high coloured, becomes pale, which they look upon as a sign of the disease being subdued; after which a few opiates, and some small doses of rhubarb, mixed with absorbent powders, generally complete the cure.

During the course of the disease, they do not neglect to administer emollient and starch clysters; and on the Malabar coast, where they had not in 1780, got into the practice of using mercury in the cure of dysenteries, if the patient had much griping, they put a blister upon the belly, which, they were of opinion, likewise prevents inflammation and mortification, the symptoms most to be apprehended in this disorder.

It is probably from mercury preventing inflammation, and consequently mortification, that the above practice is succesful. Mr. Wilson, an ingenious surgeon, in the service of the Hon. East-India Company, told me, when at Pondicherry, that he had seldom lost above two men in a year by dysenteries in the battalion of seapoys to which he was surgeon, since he became acquainted with the practice of using mercury in this complaint: whereas before that he frequently lost in the battalion from twenty to thirty men by dysenteries in a sickly season.—London Medical Journal, Vol. 8. p. 153.

diseased

diseased state of the liver. This, no doubt, suggested the idea of the propriety of exhibiting mercury in this disease.

Doctor Balfour, who for many years resided in Bengal, has also given calomel in the acute dysentery, in the same manner as recommended in the preceding pages.

Dr. Balfour's practice in the dysentery, after cleansing the stomach and bowels by an infusion of tamarinds, with emetic tartar and manna, is to give eight grains of calomel, with two grains of opium, at bed-time, on the first day of the disorder, and to continue them for four or five nights following, or longer, if the nature of the stools should require it: and to repeat the same quantity of calomel and opium, at any time in the course of the disease, when judged requisite. He at the same time gives in the morning a saline purgative, or castor oil, till the disease begins to yield*.

* See his Treatise on putrid intestinal remitting fevers, published 1790, page 142 et seq.

SECT. XIV.

OF ACIDS IN DYSENTERY.

SIR John Pringle, ſpeaking of dyſentery, condemns the common practice of giving chalk julep in this diſeaſe, as ſuppoſing it aroſe from an acid. I ſoon, ſays he, became ſenſible of its bad effects. Acids beſt ſuit this diſeaſe. Theſe, however, are to be given in ſo ſmall a quantity as not to be too ſharp for the bowels: a practice not only ſupported by Degnerus *, but by Dolæus, another author of experience, and of ſuch candour, that though he alſo refers the cauſe to an acid, yet ſtrongly recommends a mixture of lemon-juice with oil, and ſays, that with that plain medicine he had cured above a hundred †. Agreeable to this method of ſheathing the acid, we were told by a commander of the huſſars in the German campaign, that when his men were ſeized with the dyſentery, they put cream and vinegar into

* Vid. Hiſt. dyſent. cap. III. § lxxvii. Hoffman, in theſe caſes, recommends the uſe of Rheniſh wine.

† Encyclopæd. Med. Lib. III. cap. v. ſect. xx.

ſeparate

ſeparate veſſels, and with two ſtraws endeavoured to ſuck up equal portions of each at a time.

J. Heurnius, in a note, de Morb. Inteſtin. Lib. VI. cap. 10. Fernelii, ſays, that garlick, with ſugar and lemon-juice, was found to be a remedy, for people who had returned to Amſterdam from the Eaſt-Indies, afflicted with the dyſentery, from living on putrid food, in 1597. Ol. Heurnius mentions the ſame remedy for dyſenteries in long voyages.

A moſt pernicious prejudice, ſays the amiable Tiſſot, which ſtill prevails is, that fruits are noxious in dyſentery, and even ſometimes produce it. This ariſes from confounding complaints of the bowels. A diſorder ariſing from wind, or the cholic, may be aggravated by acids, but the caſe is different here. The dyſentery is contagious, whereas this is not, and it is acids that neutralize the poiſon productive of ſo cruel a diſorder. In truth bad fruits, and ſuch as have not ripened well, in unſeaſonable years, may really occaſion cholics, a looſeneſs (though oftner a coſtiveneſs) and diſorders of the nerves, and of the ſkin; but never can occaſion an epidemical dyſentery or flux. Ripe fruits, of whatever ſpecies, and eſpecially ſummer fruits, are the real preſervatives from this diſeaſe. The greateſt miſchief they can effect, muſt reſult from their thinning and waſhing down the humours, eſpecially the thick glutinous bile, if they are in ſuch a ſtate; good ripe fruits being

being the true diſſolvents of ſuch; by which indeed they may bring on a purging, but ſuch a one as is rather a guard againſt a dyſentery.

We had a great, an extraordinary abundance of fruit in 1759 and 1760, but ſcarcely any dyſenteries. It has been even obſerved to be more rare, and leſs dangerous than formerly; and if the fact is certain, it cannot be attributed to any thing more probably, than to the very numerous plantations of trees, which have rendered fruit very plenty, cheap, and common. Whenever I have obſerved dyſenteries to prevail, I made it a rule to eat leſs fleſh, and plenty of fruit; I have never had the ſlighteſt attack of one; and ſeveral phyſicians uſe the ſame caution with the ſame ſucceſs.

I have ſeen eleven patients in a dyſentery in one houſe, of whom nine were very tractable; they eat fruit and recovered. The grandmother and one child, whom ſhe loved more than the reſt, were carried off. She managed the child after her own faſhion, with burnt wine, oil, and ſome ſpices, but no fruit. She conducted herſelf in the very ſame manner, and both died.

In a country ſeat near Berne, in the year 1751, when theſe fluxes made great havock, and people were ſeverely warned againſt the uſe of fruits, out of eleven perſons in the family, ten eat plentifully of prunes, and not one of them was ſeized with it: the poor coachman alone rigidly ob-

ſerved

ſerved that abſtinence from fruit injoined by this prejudice, and took a terrible dyſentery.

This ſame diſtemper had nearly deſtroyed a Swiſs regiment in garriſon in the ſouth of France; the captains purchaſed the whole crop of ſeveral acres of vineyard; there they carried the ſick ſoldiers, and gathered the grapes for ſuch as could not bear being carried into the vineyard; thoſe who were well eating nothing elſe: after this not one more died, nor were any more even attacked with the dyſentery.

A clergyman was ſeized with a dyſentery, which was not in the leaſt mitigated by any medicines he had taken. By mere chance he ſaw ſome red currants; he longed for them, and eat three pounds of them between ſeven and nine o'clock in the morning; that very day he became better, and was entirely well on the next.

I could greatly enlarge the number of ſuch inſtances; but theſe may ſuffice to convince the moſt incredulous, whom I thought it might be of ſome importance to convince. Far from forbidding good fruit, when dyſenteries rage, the patients ſhould be encouraged to eat them freely; and the directors of the police, inſtead of prohibiting them, ought to ſee the markets well provided with them. It is a fact of which perſons, who have carefully informed themſelves, do not in the leaſt doubt. Experience demon-

ſtrates it, and it is founded in reaſon, as good fruit counter-operates all the cauſes of dyſenteries.

The experience of all countries and times ſo ſtrongly confirms theſe important truths, that they cannot be too often repeated, too generally publiſhed, whenever and wherever this diſeaſe rages. The ſucceſſion of cold ſhowers to violent heats; too moiſt a conſtitution of the air; an exceſs of animal food; uncleanlineſs and contagion, are the real cauſes of epidemical fluxes.

PRACTICAL OBSERVATIONS.

SECT. XV.

OF THE SCARLET FEVER.

THIS difeafe appeared in Birmingham about the middle of May, 1778, and in the beginning of June was frequent in many of the towns and villages in the neighbourhood. It continued in all its force and frequency to the end of October, varying however in fome of its fymptoms as the air grew colder. In the beginning of November it was rarely met with, but towards the middle of that month, the air again becoming warmer, it increafed again, and in fome meafure refumed thofe appearances which it poffeffed in the fummer months, but which it had loft during the cold winds in October.

It affected children more than adults; but feldom occurred in the former under two years of age, or in the latter when more than fifty. In children the number of boys and girls that fuffered from it was nearly equal, but in adults the number of female patients confiderably exceeded that of the male; probably becaufe the former were more employed in attendance upon the fick, and confequently more expofed to the infection.

On the firſt ſeizure the patients felt an unuſual wearineſs, or inaptitude to motion; a dejection of ſpirits, and a ſlight ſoreneſs or rather ſtiffneſs in the throat; with a ſenſe of tightneſs in the muſcles of the neck and ſhoulders, as if they were bound with cords. This ſymptom ſometimes became very painful, ſo that it was difficult to prevail upon the younger patients to throw their heads ſufficiently back, to allow of a full inſpection of the throat. In a few hours chilly fits took place, generally alternating with fluſhing heats; but at length the heat prevailed altogether. The patients now complained of ſlight headach, and tranſitory fits of ſickneſs. They paſſed a reſtleſs night, not ſo much from pain as from want of inclination to ſleep.

The next day the ſoreneſs in the throat increaſed, and they found a difficulty in ſwallowing, but the difficulty ſeemed leſs occaſioned by the pain excited in the attempt, or by the ſtraitneſs of the paſſage, than by an inability to throw the neceſſary muſcles into action. A total diſreliſh to food took place, and the ſickneſs frequently aroſe to a vomiting. The breathing was ſhort, and often interrupted by a kind of imperfect ſigh. The ſkin felt hot and dry, but not hard; and the patients experienced frequent, ſmall, pungent pains in different parts of the ſkin, as if touched with the point of a needle. Towards evening the heat and reſtleſſneſs increaſed; the breath be-

came

came hot and burning to the lips; the patients wiſhed to drink, but the tendency to ſickneſs, and the exertions neceſſary to frequent deglutitions, were ſo unpleaſant, that they ſeldom cared to drink much at a time. This night was paſſed with ſtill greater inquietude than the former. In the morning the face, neck, and breaſt appeared redder than uſual; in a few hours this redneſs became univerſal, and increaſed to ſuch a degree of intenſity, that the face, body, and limbs, reſembled a boiled lobſter in colour, and were evidently ſwollen. Upon preſſure the redneſs vaniſhed, but ſoon returned again. The ſkin was ſmooth to the touch, nor was there the leaſt appearance of pimples or puſtules; but now and then a caſe occurred, with a few circular livid ſpots interſperſed amongſt the red colour, particularly on the neck and breaſt; but this appearance did not portend a more unfavourable termination of the diſeaſe. The eyes and noſtrils partook more or leſs of the general redneſs; and in proportion to the intenſity of this colour in the eyes, the tendency to delirium prevailed.

Things continued nearly in this ſtate for two or three days longer; the intenſe ſcarlet then gradually abated, a brown colour ſucceeded, and the ſkin becoming rough, peeled off in ſmall branny ſcales. The tumefaction ſubſided at the ſame time, and the patients gradually recovered their ſtrength and appetite.

During

During the whole courſe of the fever, the pulſe was quick, ſmall, and uncommonly feeble. The bowels regular in their diſcharges. The urine ſmall in quantity, but ſcarcely differing in appearance from that of a perſon in health. The ſubmaxillary glands were generally enlarged, and rather painful when preſſed upon.

The tongue was red, and moiſt, at the end and at the ſides; but drier in the middle, and more or leſs covered with a yellowiſh brown mucus. The velum pendulum palati, the uvula, the tonſils, and the gullet, as far as the eye could reach, partook of the general redneſs and tumefaction. I never ſaw any real ulceration in theſe parts; but ſometimes collections of thick mucus, particularly on the back of the œſophagus, greatly reſembling the ſpecks or ſloughs in the ulcerated ſore throat, but they were eaſily waſhed away by the injection of any common gargle.

The above is a picture of the diſeaſe as it then moſt uſually appeared; but it too frequently aſſumed a much more threatening aſpect; for in children, the delirium commenced in a few hours after the firſt ſeizure, which was marked by ſymptoms of extreme debility. The fleſh was intenſely hot: the ſcarlet colour appeared on the firſt or ſecond day, and they died very early on the third.

In others, who ſurvived this rapid termination, when the ſcarlet colour turned to *brown*, and their

recovery might have been expected, the pulse ſtill remained feeble and quick, the ſkin became dry and harſh, the mouth parched, the lips chopped and *black*; the tongue hard, dry, and *dark brown*; the eyes heavy and ſunk; they expreſſed an averſion to all kinds of food, and extreme uneaſineſs upon the leaſt motion or diſturbance. Thus they lay for ſeveral days, nothing ſeeming to afford them any relief. At length a clear amber coloured matter diſcharged in great quantities from the noſtrils, or the ears, or both, and continued ſo to diſcharge for many days. Sometimes this diſcharge had more the appearance of pus, mixed with mucus. Under theſe circumſtances when the patients did recover, it was very ſlowly; but they generally lingered for a month or ſix weeks from the firſt attack, and died at length of extreme debility.

In adults, when more violently attacked, the rapidity of the fever, the delirium, &c. was ſuch, that they died upon the fourth or fifth day, eſpecially if a purging ſupervened. Some ſurvived to the eighth, or to the eleventh day; in all theſe the throat was but little affected: the eyes had an uncommon red appearance, not that ſtreaky redneſs which is evidently occaſioned by the veſſels of the cornea being injected with red blood, but an equable ſhining redneſs, reſembling that which we may obſerve in the eye of a ferret. But notwithſtanding this morbid appearance in the

the eye, the ſtrongeſt light was not offenſive. This redneſs might often be diſcovered, by lifting up the upper eyelid, ſome hours before it ſhewed itſelf in the part of the eye that is uſually viſible, and it was of ſome conſequence to attend to this circumſtance, as it greatly influenced the event of the caſe.

Theſe patients were extremely reſtleſs, clamorous, and deſirous to drink; but after ſwallowing one or two mouthfuls, upon taking another, they ſeemed to forget to ſwallow, and let it run out at the corners of the mouth; whilſt others ſpurted it out with conſiderable force, and were very angry if urged to drink again. In theſe caſes, the ſcarlet colour appeared very ſoon after the attack, but in an unſettled irregular manner; large blotches of red, intermixed with others of white, and theſe often changing places.

Beſides the full ſcarlet colour deſcribed above, there were frequently ſmall circular ſpots of a *livid colour*, above the breaſt, the knees, and the elbows. The pulſe, from the very beginning was ſo quick, ſo feeble, and ſo irregular, that it was hardly poſſible to count it for half a minute at a time.—It is needleſs to add, that the greater part of thoſe who laboured under theſe dreadful ſymptoms died. A few recovered, and others fell into a ſtate of debility bordering upon idiotiſm; from which they were at length reſcued by time, and generous living.—

Thefe were the appearances during the hot months, but in the month of October, when the air became colder, the fcarlet colour of the fkin was lefs frequent, and lefs permanent. Many patients had no appearance of it at all, whilft others, efpecially adults, had a few very minute red pimples, crowned with white pellucid heads, but thefe appeared only in the parts where the fkin is moft tender. The infide of the throat was very confiderably tumefied, fo as to render deglutition painful and difficult; its colour a dull red, fometimes tending to a *livid*. This affection of the fauces in fome patients feemed to extend down the gullet to the ftomach, and was accompanied with painful efforts to vomit, particularly whenever any thing was fwallowed: in others it fpread itfelf down the windpipe to the lungs, as was evident from the cough, the ftrait breathing, the apprehenfion of fuffocation, and other peripneumonic fymptoms. In others again, its progrefs along the Euftachian tube was indicated by fharp pains in the ear. The eyes did not now bear the light, though they had lefs of that rednefs defcribed before, but ftill a flight tinge of it was vifible, together with fomething of the fhining watery appearance which is fo remarkable in the meafles. The patients too complained of a general painful forenefs in all their limbs, and not unfrequently of very acute pains in the ancles,

knees,

knees, wriſts and elbows, attended with more or leſs ſwelling where the pain was moſt violent. Theſe ſwellings had ſometimes a reddiſh ſhining appearance, very like the gout.

In moſt of theſe caſes the pulſe beat 130, or 140 ſtrokes in a minute; it was ſmall, but yet hard, and ſometimes ſufficiently ſo to juſtify the opening of a vein. The blood thus taken away, in every inſtance when cool, appeared ſizy, and the whole craſſamentum firm.

Through the courſe of the diſeaſe, large quantities of viſcid mucus, and other matters, with much of the purulent appearance, were from time to time diſcharged from the throat and noſtrils.

Some patients threw out ſeveral white, or aſh-coloured ſloughs, though no ſuch ſloughs were viſible upon inſpecting the throat; but in moſt, the fauces, particularly the tonſils, were covered with them, and upon their ſeparation looked raw, as if diveſted of their outer membrane.

The fever under this autumnal appearance, generally terminated favourably on the fifth, eighth, or eleventh day, but ſometimes was protracted to a much greater length, by the formation of large painful abſceſſes; and I have been told of ſeveral caſes that were followed by a numerous ſucceſſion of boils upon different parts of the body. But no ſymptom was more trouble-

ſome

ſome to ſome individuals, than ſmall ulcerations on the ſides, and down towards the root of the tongue, which were ſo painful as to deprive them of the power to take ſolid food, even for ſeveral days after the inclination for it had returned *.

* Vide Dr. Withering's well drawn-up Account of the Scarlet Fever, as it appeared in Birmingham in 1778.

SECT. XVI.

THE SEQUEL OF SCARLET FEVER.

The anxiety of the phyſician, and the danger of the patient, generally ceaſe with the diſeaſe which gave riſe to them; but this was not the caſe with the diſorder now under conſideration, for it often happens, that in ten or fifteen days from the ceſſation of the fever, another train of ſymptoms demand the attention of the former, and exerciſe the ſufferings of the latter. They often felt, ſays Dr. Withering, after a few days amendment, a ſomething that prevented their further approach to health: an unaccountable languor and debility, together with a ſtiffneſs in their limbs, an accelerated pulſe, diſturbed ſleep, diſreliſh to food, and a paucity of urine.

Theſe ſymptoms were ſoon followed by an univerſal ſwelling of the anaſarcous kind, and ſometimes an aſcites. In ſome patients the feveriſh diſpoſition ran high, in others it exiſted only in a moderate degree. In ſome the dropſy affected the

the brain, producing coma, vigil, delirium, blindneſs; with the moſt enlarged expanſion of the iris, which was incapable of contraction in the ſtrongeſt light. In others, the dropſy affected the lungs, and produced every ſymptom of the hydrops pectoris.

The urgency of theſe ſymptoms, added to the very evident appearance of diſeaſe, ſoon compelled the patients to apply for aſſiſtance; and the event, under the mode of treatment here to be deſcribed, was almoſt always favourable.

When called upon, ſays Dr. Withering, to viſit patients in this ſituation, I commonly begin with giving calomel at night, and a mild purgative in the morning.

If a febrile pulſe attended the other ſymptoms, an emetic was uſeful; as were alſo the ſaline draughts and other neutral diuretic ſalts.

In caſes of great debility, with comatoſe, or peripneumonic ſymptoms, large and repeated bliſters were of infinite ſervice: but in the more common caſes, when the dropſical ſymptoms were the principal cauſe of complaint; ſmall doſes of calomel and rhubarb occaſionally, to keep the bowels open; dilute ſolutions of fixed alkali, ſquills, Seltzer water; and other diuretics in daily uſe, were adapted to the diſpoſition and temperament of the patient.

In ſome caſes that reſiſted the uſual remedies, a ſingle grain of Pulv: fol. Digitalis given twice,

or at moſt thrice a day, until its effects became evident, ſoon effected a cure in a manner highly pleaſing to the patient, for it is never neceſſary to puſh its doſes ſo far as to occaſion nauſea, or to produce any other kind of diſorder in the ſyſtem. When the urine flowed freely, ſteel and other tonics were employed; and the recovery was greatly promoted by gentle exerciſe, high ſeaſoned food, wine, and the wearing of flannel in contact with the ſkin.

I cannot conclude this ſubject without noticing a remedy ſtrongly recommended by Plenciz *;

R. Rhei electi,
Spiritus ſalis coagulati āā drachmas duas;
Mercurii dulcis,
Auri fulminantis,
Extracti ſcillæ āā drachmam dimidiam m. fiant pilul. c. rob juniperi, pondere unius alteriuſve grani.

That is, take of
Rhubarb,
Marine acid, of each two drachms;
Calomel,
Fulminating powder †,

Extract

* Tractatus de Scarlatina.

† The method of making the fulminating powder is this: Put a dram of filings of gold, with half an ounce of aqua regia, newly made, into a matraſs, placed in ſand. When the menſtruum ceaſes to act, pour off the ſolution; and, if any of the

Extract of squills, of each half a drachm.
Mix so as to make pills with juniper rob, and make each of them one or two grains weight.

In the exhibition of this medicine the following precautions are to be observed.

Firstly. One or two of these pills are to be given every second or third hour; according to the age and strength of the patient. This quantity ought to procure three or four stools every day: but if it fail to do that, either the dose must be increased, or some purgative, such as extract of jallap, sulphurated scammony, or aloetic pill with scammony, must be added; by this means a salivation will be prevented. But,

Secondly, the more effectually to prevent a salivation, the patient after each dose of the pills ought to drink some ounces of tea prepared with juniper berries, or a decoction of grass roots, warm.

the gold be left, add as much more aqua regia as shall be sufficient to dissolve it. Dilute the solution with ten times its quantity of warm water; and then drop in oil of tartar per deliquium till the effervescence and precipitation cease. The whole being now suffered to settle, the clear liquor is to be poured off, and the precipitated matter washed with warm water till it becomes insipid, and afterwards exsiccated.

Great care must be taken not to rub any of this powder with the glass stopple, as the gold will explode, and much danger accrue from the shivering of the phial.

Thirdly. After taking thefe pills for two or three days, they muft be omitted a day or two.

Fourthly. If the ufe of this medicine occafion too much difturbance in the habit, opiates will be proper, and if much feverifh difpofition prevails, it muft not be employed.

Within a day or two after the ufe of this remedy, there is generally a copious difcharge of water, both by urine and ftool.

It is not only in cachectic, leucophlegmatic, and dropfical cafes that this remedy is ufeful: but in the moft obftinate alvine and urinary obftructions; provided they are not accompanied with inflammation.

So likewife in the fuffocating catarrh, and in the humoral afthma, where kermes mineral, tartarifed fulphur of antimony, fquills, gum ammoniac, and other, even the moft powerful remedies, produced no good effect, the *aurum fulminans*, with a grain or two of *calomel*, afforded an immediate relief.

He further adds, that this medicine was a *fecret* of Dr. *Weber*'s, of Furnberg, who ufed it with great fuccefs in a variety of obftinate chronical difeafes.

PRACTICAL OBSERVATIONS.

SECT. XVII.

ON THE ORIGIN OF SCARLET FEVER.

Reiterated obſervation, aided by the concurrent teſtimony of many of my colleagues in this place, engaged in extenſive practice, ſays Dr. Withering, confirms me in the opinion that the infection of the Scarlatina Anginoſa, like that of the meaſles and ſmall-pox, can only be taken once, and that it is not generated under any known circumſtances like the poiſon of the Typhus or low fever, but that it is from time to time propagated by contagion, like the other eruptive fevers juſt now mentioned.

Moſt practitioners have conſidered putrid ſore throat, and ſcarlet fever, as the ſame, or as a modification of the ſame diſeaſe; but there is one particular feature which indicates an eſſential difference in the two diſeaſes; I mean the ſubſequent anaſarcous affections, ſo common after the febrile ſtate of the Scarlatina Anginoſa, but rarely ſucceeding to the ulcerated ſore throat. If theſe dropſical

appearances are ſuppoſed to depend upon the debility conſequent to the increaſed and violent action of the capillary ſubcutaneous veſſels during the eruptive ſtate, or if again upon the morbid affection of the lymphatics from the abſorption of the poiſonous miaſmata, the dropſy ſhould appear after one diſeaſe as well as after the other.

In ſcarlet fever the papilla of the tongue are alſo moſt remarkably prominent.

As to the immediate cauſe of this diſeaſe, thoſe who are beſt acquainted with the preſent imperfect ſtate of knowledge are the leaſt likely to expect a ſatisfactory anſwer to ſuch an enquiry. Morton ſays * It is a poiſon defiling the animal ſpirits, whoſe malignity does not only overwhelm the ſpirits in its firſt attack, but breaks down the maſs of blood by agitation, into an acrid colluvies, more powerfully than any other ferment.

Navier † thinks the cauſe of the Scarlatina Anginoſa is ſomething acrid, cauſtic, and putrefactive,

* Cauſa morbillorum continens ſeu immediata eſt Venenum ſpiritus inquinans, quod non tantum in primo morbi ſtadio malignitate ſuâ ſpiritus obruit, ſed maſſam ſanguinis agitando eam in colluviem acrem, præ cæteris omnibus fermentis colliquefacit. Loc. citat.

† Cauſam hujus morbi non ſolum cum illa, quæ ſudorem anglicam, aphtham gangrœnoſam, dyſenteriam, &c. excitavit, eandem eſſe dicit, ſed in miaſmate, quod cum morbilloſo comparat, acri cauſtica et putrefaciente conſiſtere ipſumque morbum analogiam alere perhibet cum morbo epidemico pecorum.

factive, like that of the meafles. He believes that a fimilar caufe produces the fweating ficknefs, the gangrenous fore throat and dyfentery.

Plenciz * attributes the effects to certain animated particles (femina animata), which he thinks are capable of multiplying their kind. He fuppofes they may be wafted by the winds to confiderable diftances, or that they may fometimes lie dormant a long time in the body; and thus he accounts for the production of the difeafe, when it did not previoufly exift in the neighbourhood.

But whether this difeafe be caufed by animalcula capable of generating their kind, or by certain miafmata which have the property of affimilating other particles of matter to their own nature, by fome mode of fermentation hitherto but little underftood, there can be no doubt but it is *contagious*, and perhaps fo in a degree nearly equal to the fmall-pox and meafles.

I have repeatedly had occafion to obferve, that it is upon the third or fourth day after expofure to the contagion, that the patients begin to complain. Its firft feat feems to be the pituitary or Schneiderian membrane; every part of which it prefently pervades, paffing from thence down the œfophagus to the ftomach, down the larynx to the lungs, along the Euftachian tubes to the ears; from the nofe, to the eyes, and to the brain itfelf.

* Tract. de Scarlat. p. 64—68.

The rednefs of the fkin does not neceffarily imply a determination of the poifon to the furface of the body; becaufe we know inftances of a fimilar effect being almoft inftantaneoufly produced by certain affections of the ftomach. How many people after eating mufcles have we not heard of, that have experienced great anxiety, prefently followed by a general rednefs upon the fkin; and which again was foon removed by the exhibition of a vomit to difcharge the contents of the ftomach. Who has not obferved the full fcarlet flufh upon the face, after eating herrings or vinegar; after drinking acetous beer or cyder? Can any body fuppofe that in the one cafe the offending matter is inftantly conveyed to the fkin? or that in the other it is carried from thence inftantaneoufly as the contents of the ftomach are evacuated?

I fhall only add further upon this fubject, that the effects of acids juft now mentioned, like thofe afcribed to the miafmata of the Scarlatina Anginofa, are by far the moft remarkable in hot weather.

However vain our hopes may be, built upon fo fhallow a foundation, yet if my conjecture be true, that the poifon firft makes its lodgment upon the mucus feparated by the pituitary membrane, lining the nofe and fauces, it will be of fome confequence to thofe who from their attendance upon the fick, are neceffarily expofed to the infection,

fection, to hawk up and ſpit out frequently the mucus that collects in the fauces, and likewiſe to promote the diſcharge of that which lodges in the noſtrils.

From the ſame conſideration I am led to adviſe thoſe who having already imbibed the poiſon, are ſeized with the firſt ſymptoms of the diſeaſe, immediately to take an emetic, and to ſnuff ſomething up the noſe that will occaſion ſneezing. If theſe precautions are attended to, I can venture to aſſert, from a pretty large experience, ſays Dr. Withering, that the infection will either be altogether pevented, or elſe very trifling in its conſequences. After the operation of the emetic, I generally direct the patient to go to bed, and drink plentifully of wine whey with ſpirit of hartſhorn.

Vomiting ſeems to be the remedy of nature: it ſtands foremoſt in her efforts to throw off the cauſe of the diſeaſe: it moſt amply fulfils the indications ariſing both from a conſideration of the cauſe, and of the effects. If we want to diſlodge a poiſon from the fauces, and the mucous membrane of the noſe, and to prevent its deſcent to the ſtomach, how ſhall we do it ſo effectually as by emetics? If the poiſon already acting upon the nervous ſyſtem, deſtroys the equilibrium of the circulating powers, how can we ſo readily reſtore that equilibrium as by emetics? Does not the experience of every day confirm their efficacy in a

5 variety

variety of diforders dependent upon local congeftions?

But not to proceed further with queftions which cannot fail to be anfwered in the affirmative, I will venture to affert, fays Dr. Withering, that the liberal ufe of emetics is the true foundation for fuccefsful practice in the Scarlet Fever and Sore Throat *.

In the very firft attack, a vomit feldom fails to remove the difeafe at once. If the poifon has begun to exert its effects upon the nervous fyftem, emetics ftop its further progrefs, and the patients quickly recover. If it has proceeded ftill further, and occafioned that amazing action in the capillaries, which exifts when the fcarlet colour of the fkin takes place, vomiting never fails to procure a refpite to the anxiety, the faintnefs, the delirium.

In autumn when the throat was more affected; when the tumefaction of the fauces was fuch, that the patients could not fwallow but with the utmoft difficulty: when the peripneumonic fymptoms threatened fuffocation, and bleeding was

* Dr. Fothergill, at page 55 of his Treatife on the Sore Throat, fays, "If we are called in at firft, whilft the ficknefs or vomiting continues, it will be of ufe to promote this difcharge, by giving an infufion of green tea, chamomile flowers, carduus, or a few grains of ipecacuanha. In fome inftances where the attack has been fevere, and this method practifed, the diforder has gone off with more eafe than was at firft apprehended."—

ineffectual,

ineffectual, an emetic opened the gullet, and unloaded the lungs, fo that deglutition became eafy, and refpiration free.

But it is neceffary to add, that a vomit only fufficiently ftrong to evacuate the contents of the ftomach, is by no means adequate to thefe effects. The vomit muft be powerful, and, in ordinary cafes, repeated once in forty-eight hours *. In thofe with more urgent fymptoms daily; and in the worft cafes twice or thrice in twenty-four hours. The patients never fail to exprefs the relief they find after the operation, and the phyfician foon difcovers it in the countenance and in the pulfe. As to the form of the emetic, the practitioner may vary it as he pleafes; but I generally combine tartar emetic in folution with ipecacuanha in powder, that I may be more certain of their full effect on the ftomach, and avoid the danger of their acting as a purgative. I alfo give them in much larger dofes than ufual, in order to fecure a certain violence of action upon the fyftem.

It is of peculiar importance alfo to know, that the progrefs of the infection may be ftopped by the ufe of very practicable precautions, fuch as may be adopted in almoft every houfe. When it firft appeared among us, it often ran through

* I have lately been informed that the phyficians in Germany have now very generally adopted the practice of giving powerful and repeated vomits.

whole

whole families, and in boarding ſchools particularly it made ſuch havoc, that moſt of the ſchools in the town and vicinity of Birmingham were under a neceſſity of diſperſing; and the yet healthy children of many families were ſent from home; but this method contributed to ſpread the infection more widely and more rapidly through the country.

From the time that Dr. Haygarth firſt communicated his ideas of ſtopping the progreſs of the ſmall-pox, the probability of ſtopping the progreſs of the Scarlet Fever by the adoption of ſimilar methods, was too evident to eſcape the moſt inattentive obſerver. The firſt trials proved ſuccefsful; and the full body of evidence elucidated by the cleareſt reaſonings, which appeared ſoon afterwards from the ſame maſterly hand, encouraged me to proceed; and now for ſeveral years paſt I have never thought it neceſſary either to break up a ſchool, or to diſperſe a private family. Allotting apartments on ſeparate floors to the ſick and to the healthy; chooſing for nurſes the older parts of the family, and prohibiting any near communications between the ſick or their attendants, and the healthy, with poſitive orders inſtantly to plunge into cold water all the linen, &c. uſed in the ſick chambers, has very univerſally been found ſufficient to check the further progreſs of the infection.

PRACTICAL OBSERVATIONS.

SECT. XVIII.

OF THE EMPLOYMENT OF CALOMEL IN SCARLET FEVER.

In every caſe of ſcarlatina I have been called to, ſays the benevolent and learned Dr. Ruſh, I have always began with giving a vomit joined with *calomel*. The vomit was either tartar emetic or ipecacuanha, according to the prejudices, habits, or conſtitutions of my patients. Beſides evacuating the contents of the ſtomach, it cleanſed the throat in its paſſage downwards. To enſure this effect from the *calomel*, I always directed it to be given mixed with ſyrup or ſugar and water, ſo as to diffuſe it generally over every part of the throat. The calomel ſeldom failed to produce two or three ſtools. In ſeveral caſes I was obliged, by the continuance of nauſea, to repeat the emetics, and always with immediate and obvious advantage. I gave the *calomel* in moderate doſes in every ſtage of the diſorder. To reſtrain its purgative effects, when neceſſary, I added to it a ſmall quantity of opium.

Whenever

Whenever I had the good fortune to ſee a patient where the ſcarlatina appeared to be in a forming ſtate, adds Dr. Ruſh, a vomit of ipecacuanha, or tartar emetic, mixed with a few grains of calomel, has never failed of completely checking the diſorder, or of ſo far mitigating its violence, as to diſpoſe it to a favourable iſſue in a few days; and if theſe obſervations ſhould ſerve no other purpoſe, than to awaken the early attention of patients and phyſicians to this ſpeedy and effectual remedy, they will not have been recorded in vain.

During the whole courſe of the diſorder, continues Dr. Ruſh, where the calomel failed of opening the bowels, I gave lenient purges, when a diſpoſition to coſtiveneſs required them.

The throat was kept clean by detergent gargles. In ſeveral inſtances I ſaw evident advantages from adding a few grains of *calomel* to them. In caſes of great difficulty of ſwallowing, the patients found relief from receiving the ſteams of warm water mixed with a little *vinegar*, through a funnel into the throat.

A perſpiration kept up by gentle doſes of *antimonials*, and diluting drinks, impregnated with wine, always gave relief.

In every caſe which did not yield to the above remedies on the third day, I applied a bliſter behind each ear, or one to the neck, and I think, always with good effects.

This diseafe proved fatal in many parts of the country, upon its firft appearance; but whereever the mode of treatment here delivered was adopted, its mortality was foon checked. The *calomel* was ufed very generally in New-Jerfey and New-York. In the Delaware ftate, a phyfician of character made it a practice not only to give *calomel*, but to anoint the outfide of the throat with *mercurial ointment*.

I cannot conclude without faying a few words on gargles. A decoction of contrayerva, with *oxymel* of fquills, was found of the greateft ufe, as alfo *tincture of rofes*, and barley-water *acidulated* with the *marine acid**. It was aftonifhing the quantity of ropy matter that thefe either voluntarily applied, or injected by means of a large pewter fyringe, brought away. The addition of *calomel*, as has been mentioned before, is excellent. Let me, however, obferve, that injections are not to be ufed with children, as they either prevent them from reaching the feat of the diforder, by their tongues, or they fwallow them, and the putrid taint of the ulcers, together; the mifchief fpreads beyond the power of art to reftrain it; violent purgings enfue, or fatal hæmorrhages from the penetrating gangrene.

* Twenty or thirty drops to a cupful.

PRACTICAL

PRACTICAL OBSERVATIONS.

SECT. XIX.

A DESCRIPTION OF THE PUTRID SORE THROAT.

THIS diſeaſe is ſaid to have appeared firſt in Spain about the year 1610; to have ſpread from thence to Malta, Sicily, Otranto, Apulia, Calabria, and the Campagnia, in the ſpace of a few years; and to have broke out at Naples in 1618, where it continued upwards of twenty years ravaging the different parts of that kingdom*.

It is not certainly known how much longer it remained in theſe countries, or to what others it was communicated at that time, its declenſion being as obſcure as the cauſes it ſprung from. That it wholly diſappeared in theſe parts, ſoon after the time above-mentioned, ſeems probable, from the ſilence of thoſe phyſicians, who have publiſhed their obſervations made in the places which had ſo ſeverely felt the effects of this diſtemper.

Several writers, as Wierus†, Forreſtus‡, Ramazzini,

* Severin. de recondita abſceſſum natur. p. 446.

† Joh. Wieri Obſervat. lib. vi. de Angina peſtilenti epidemica, Oper. p. 910.

‡ Pet. Forreſt. Obſervat. lib. vi. de Febribus publice graſſantibus, p. m. 150.

mazzini*, and others, take notice of epidemic affections of the throat, in some respects resembling the disease here described; but a little attention to the symptoms of each will, I think, discover an essential difference between them. The same, I think, may be said of the sore-throat and the scarlet fever, which shewed itself at Edinburgh in 1733†.

Tournefort, in his voyage to the Levant‡, seems to have met with this disease in the islands of the Archipelago; at least so far as one can judge from the imperfect description we have of it. His account is as follows:

"When we were in this island (Milo) there raged a terrible distemper, not uncommon in the Levant; it carries off children in twice 24 hours: it is a carbuncle, or plague-sore, in the bottom of the throat, attended with a violent fever. This malady, which may be called the child's plague, is epidemical, though it spares adult people. The best way to check the progress of it, is to vomit the child the moment he is perceived to grow heavy-headed. This remedy must be repeated, according as there is occasion, in order to evacuate a sort of aqua-fortis (a corroding matter) that discharges itself on the throat. It

* Bern. Ramazzini Constitutiones Epidem, Oper. p. 195, & seq.

† Medical Essays, vol. iii. p. 26.

‡ Tournefort's Voyage to the Levant, vol. i. p. 135.

is

is neceſſary to ſupport the circulation of the juices, and the ſtrength of the patient, with ſpirituous things; ſuch as the theriaca, ſpir. vol. oleos. aromat. and the like. The ſolution of liquid ſtyrax in brandy, is an excellent gargariſm upon this occaſion. Though it is a caſe that requires the greateſt diſpatch, the Levantines are ſeldom much in haſte, or capable of curing any diſeaſe."

When it firſt broke out in the countries abovementioned, it ſoon engaged the phyſicians of thoſe times, as well to obſerve its nature, effects, and whatever might contribute to its cure, as to vindicate their reſpective ſyſtems and opinions; and out of ſuch of the tracts then publiſhed as I have had an opportunity of peruſing, the following account of it, as it appeared at that time, has been collected.

Ludovicus Mercatus, phyſician to Philip II. and III. kings of Spain, among his Conſultations, publiſhed in tome V. of his works*, has one upon this diſeaſe†. He mentions it as a calamity which had but *newly* appeared, and at that time affected ſeveral provinces and cities of that kingdom. He has related only one caſe; but in commenting upon it, according to the method of

* D. Ludovici Mercati, medici a cubiculo Philippi III. Hiſpaniarum Regis, &c. Oper. Tom. 5. Francof. 1614.

† De Faucium et Gutturis anginoſis et lethalibus Ulceribus. Conſultatio xxiv. p. 137.

writing

writing on diseases then in use, he takes notice of several circumstances relative to it, and makes some observations respecting the cure, which, though they seem to have been neglected by many who succeeded him, experience hath since shewn to be just: some of these will be pointed out in their proper places; and, considering that he wrote very soon after the distemper broke out, the approbation prefixed to this part of his work, being dated in 1612, they are a proof of his attention and sagacity.

Johannes Andreas Sgambatus, a physician of Naples, published a treatise upon this subject in 1620 *. He gives us a methodical and pretty exact history of the symptoms and method of cure, both general and topical, together with a summary view of the disputes, which were at that time managed with sufficient heat and acrimony, in relation to its name, cause, and nature; about which they were as much divided as they were about the method of cure; each party appealing to Hippocrates, Galen, Avicenna, &c. for the support of their opinions concerning a disease, which it is not certain that those whom they appeal to ever knew.

Johannes Baptista Cortesius, in his *Miscellanea*

* De pestilente faucium affectu Neapoli sæviente, opusculum, auctore Jo. Andrea Sgambato, philosopho ac medico Neapolitano, et academico otioso. Neapoli excudebat Tarquinius Longus, 1620, in 4to.

Medica,

*Medica**, takes notice of this diſeaſe, and deſcribes its principal ſymptoms, in a letter to Jo. Anton. Anguilloni, phyſician in chief to the Malteſe gallies. He conſiders it indeed as a different diſtemper from that which infeſted Naples, and other parts of Italy; though, from his own account of it, there appears little reaſon to queſtion its being the ſame. He ſeems to have been led into this miſtake by conſidering the diſeaſe he treats of as contagious only in a certain limited ſenſe, whilſt the Italians, as ſome of the Spaniards had alſo done, declared their's to be peſtilential and contagious without reſtriction. He allows that the breath of a perſon affected might convey the contagious effluvia to another near at hand; and gives an inſtance of one who got the diſeaſe, and died of it, by trying, at his friend's requeſt, who then laboured under this diſeaſe, if his breath ſmelt †; for from this circumſtance they gueſſed at the degree of danger attending the ſick.

In

* Joannis Baptiſtæ Corteſii, medici ac philoſophi, in Meſſanenſi academia praxim ordinariam e prima ſede interpretantis, Miſcellaneorum Medicinalium Decades Denæ. Meſſanæ, 1625, in fol.

† Divi Franciſci Cuſtos, vir doctrina et moribus inſignis, hac lue obſeſſus, tonſillas ſolummodo et gargareonem inflammatione læſa habebat, et continuo querebatur ſe percipere in ore fœtorem quendam; et ut hac de re certior redderetur, ad ſe vocavit baccalaureum quendam ſibi amiciſſimum, qui maximo affectu aſſiſtebat, rogavitque ut vellet olfacere, percipereque naribus,

In 1636, Ætius Cletus, of Signia, in Italy, publiſhed his treatiſe *De Morbo ſtrangulatorio* *, or Putrid Sore Throat, and mentions ſome facts relating to it, that had eſcaped Sgambatus and Corteſius.

Marcus Aurelius Severinus, profeſſor of anatomy and ſurgery, and phyſician to the Hoſpital of Incurables at Naples, wrote alſo a diſſertation upon this diſeaſe, under the title of *Pædanchone Loimodes, ſeu de peſtilente ac præfocante Pueros Abſceſſu*; and annexed it to the ſecond edition of his book *De recondita Abſceſſuum Natura*, which was printed in 1643 †. From a perſon of his capacity, and furniſhed with the beſt opportunities of ſeeing the diſeaſe in every ſtage and condition,

naribus, an verum eſſet talem fœtorum emittere, an ab ejus imaginatione prodiret: olfecit baccalaureus, me (ſcil. Corteſio) præſente, et multis aliis: at ſtatim non multis elapſis horis decubuit ſola faucium et glandularum inflammatione vexatus, abſque aliqua manifeſta corruptione partium, omnibuſque præſidiis ex arte factis, quarto die ſuffocatus periit; et tamen Cuſtodem non tetigerat, ſed ſolo olfactu aerem ab ore prodeuntem naribus traxerat: quare ab hujuſmodi exemplo veni in ſententiam hunc morbum non eſſe abſque aliqua contagione. Cort. Miſcel. p. 698.

* De morbo ſtrangulatorio, opus Ætii Cleti Signini, doctoris medici et philoſophi.—Romæ, 1636, 8vo.

† De recondita abſceſſuum natura, libri 8. Marci Aurelij Severini Tharſienſis, philoſophi et medici, regio in gymnaſio Neapolitano anatomes et chirurgiæ profeſſoris.—Editio ſecunda, Francofurti ad Mænam, 1643. And again printed with Bartholine's Exercitationes, as a commentary upon it, and Villani's Therapeuta Neapolitanus, ſeu Veni mecum Conſultor.—Neapoli, 1653.

we might reaſonably have expected ſuch obſervations as would enable one to form a juſt idea of this diſtemper; but we meet with little of this kind in his performance. He has indeed mentioned ſome circumſtances relating to its hiſtory, not taken notice of by the other writers I have ſeen, and his method of cure is different from the reſt; but he refers us to others for an account of the ſymptoms, and contents himſelf with reciting and commenting upon Aretæus's deſcription of the Ulcera Syriaca, which he takes for granted to have been the ſame with the diſeaſe at that time infeſting Naples; though very probably without ſufficient reaſon.

Petrus Michael de Heredia, phyſician to Philip IV. king of Spain, in his *Diſputationes de morbis acutis*, treats of this diſeaſe expreſsly in ſeveral chapters under the title of *Angina Maligna*. His hiſtory of the ſymptoms contains ſeveral circumſtances which were not taken notice of by any other writer I have ſeen; ſo that though he was probably among the laſt of the Spaniſh phyſicians who wrote upon this ſubject, yet the diligence of his predeceſſors had not wholly exhauſted it. In the ſecond edition of Heredia's works, which was that I made uſe of *, nothing appears whereby to aſcertain the time exactly when he

* Petri Michaelis de Heredia Complutenſis—Philippi IV. Hiſpaniarum regis archiatri.—Opera medicinalia.—Lugduni, 1673. fol.

wrote

wrote his account; but as he mentions the *Polyanthea* of De la Parra, which, according to Ren. Moreau in Bartholine's Epiftles, was printed at Madrid in 1625, it is plain that he muft have written after this time.

One might juftly expect fome curious obfervations upon this difeafe, from a perfon fo well qualified for it as Thomas Bartholine: he was in Italy whilft it raged there, and, it might be fuppofed, would be attentive to the minuteft circumftance relating to it, and be inquifitive enough to know what men of character had faid upon it. But the Treatife which he wrote upon this difeafe, and publifhed in 1646*, contains fo little to the purpofe, that it is difficult to conceive for what end it was written, unlefs to compliment his mafter Severinus, which he does very liberally†.

According

* Thomæ Bartholini de Angina Puerorum Campaniæ Siciliæque epidemica exercitationes, Lut. Parifior. 1646.

† Zacutus Lufitanus alfo mentions this difeafe, and relates an unhappy inftance of its effects in the following terms:

In his partibus (fcil. faucibus) ex humoris virulenti affluxu gignuntur carbunculofæ inflammationes, quæ peftis diræ, aut veneni promptiffimi inftar, contagio quodam, pueros et adultos corripiunt; et fævis maleficentiffimifque ftipatæ fymptotis citiffimam necem inferre folent. Malum in Hifpania non multis abhinc annis frequens, vulgus medicorum Hifpano fermone Garrotillo nuncupat; de cujus effentia, periculo, brevitate, et complicatione uftivi et ulcerofi tumoris, ac deleteria corruptione, laconice dicam. Hoc fuit preffus biennis infans, fanguineus et obefus. Primo die ex catarrhofa defluxione in fuffocationem pene incurrit, difficulter refpirabat, et lac deglutiebat,

According to the accounts which have been left by thefe authors, it appears, that the difeafe which they defcribe was extremely malignant, and moft particularly fatal to children, though adults, if they were much converfant about the fick, were very often feized with it; yet more of thefe recovered in proportion than of children.

As it was fometimes obferved to carry off whole families together, and to fpread to thofe places firft, between which and the countries affected by it, the communication was moft frequent; and alfo that children, fent away from the towns where it raged, in order to avoid it, efcaped whilft they were kept at a diftance, but had it on their return, if the difeafe was not extinguifhed; it was almoft univerfally allowed to be *contagious* *.

Thofe who were feized with it, firft complained of a pain or forenefs in the throat, with a ftiffnefs of the neck, an uneafinefs on moving it, as if a cord was twifted about it, a difficulty in fwallowing, and frequently in breathing alfo, with a difagreeable fetid fmell and tafte. On infpection,

tiebat, et febri acuta affectus, nec plorare poterat. In parte gutturis dextra externa glandulofus apparuit tumor cum dolore multo. Secunda die intra fauces ulcus vifum eft ad nigrum vergens, quod putrilago et mollities multa comitabantur; et ab ore fœtor horribilis prodibat, magnum certe corruptionis completæ indicium. Tertio die nullis adjutus auxiliis ftrangulatus eft extinctus. De Praxi Medic. Admiranda, lib 1. obferv. 20.

* Quod ad contagium attinet, hoc communi omnium confenfu atque experimento evincitur. Severin. p. 442.

the

the uvula, the tonfils, pharynx, and the whole fauces, appeared of a remarkably florid red colour, like that attending an eryfipelas: this colour was not uniformly intenfe, but fome parts feemed to be of a deeper dye than others. The parts above-mentioned were fwelled more or lefs, though not always fo much as to affect refpiration, as in a common angina.

If the attack was violent, they had an extreme difficulty in breathing, and alfo in fwallowing, with a kind of compreffive pain and ftraitnefs of the breaft and back, a rednefs of the whole face and neck, great heat of all the parts affected, the voice much injured, an unquenchable thirft, and the patient feemingly in danger of being choaked*. In fome, the fwelling and ulcers of the fauces were apparent upon looking into the mouth; in others, nothing could be feen, but a moft offenfive putrid fmell was perceivable. A fever came on with the other fymptoms, and was frequently accompanied with fmall pimples and eruptions like flea-bites. In very bad cafes, this fever, which Mercatus calls a moft malignant one †,

* ——— difficultas refpirandi, et non raro deglutiendi, cum pectoris et dorfi dolore ac veluti compreffione fuffocante, fimul cum peftilente odore, et vehementi harum omnium partium ardore, et rubore totius oris et colli, cum vocis et loquelæ vitio, ac linguæ extractione, et fiti incompefcibili.—Mercat. Confult. p. 136.

† Maxime ob maligniffimam febrem, quam plerumque fibi adjunctam habet, &c.—Confult. p. 136.

did

did not always diſcover its violence or malignity at firſt; but it was not the leſs formidable on this account*.

On the ſame day, or the following, ſuch parts of the fauces as at firſt ſeemed to be of a deeper colour than the reſt, turned white, aſh-coloured, or *black*: this was not occaſioned by any cruſt or matter ſuperinduced upon the parts, but proceeded from a gangrenous colliquation of them, the ſubſtance itſelf being mortified.

The neck and throat ſoon after began to ſwell externally; the tumour was of a ſoft œdematous kind, and increaſed in magnitude as the diſeaſe advanced. All the ſymptoms were aggravated during the night. If the patients had any interval of quiet, it was commonly in the day-time†. About the fourth day this tumour was generally grown very large, and the white places in the fauces began to turn *black*; a putrid corroſive ſanies was diſcharged by the mouth and noſtrils‡; the

* — nec multum fidere oportet, ſi febris mox non apparuit aut ſuccreſcat, nam ſæpe citius ſuffocat affectio, quam cauſa ſuccendatur; ac non raro malignitas humoris corrumpit ſpiritus et mortem accelerat, ſine eo quod febris ſuccendatur.—Mercat. Conſult. p. 137.

† Sgambat.

‡ Quibus etiam accedit ſublimis reſpiratio et alta ac ſpirituum revulſio, cum maxima pinnarum naſi diſtenſione.—Saniei per os et nares excretio, variis ulcerum coloribus et intenſiſſimo fœtore nauſeam plerumque movente cum ſordida excretione.

In

the breath grew extremely offenſive; reſpiration, if hitherto not much affected, now became difficult, and the patient ſunk into the arms of death.

Though this was the common progreſs of the diſeaſe, where it terminated unhappily, yet it often varied from this type, and was attended with very different ſymptoms. Some had an extreme difficulty of breathing from the firſt; ſome had a violent cough; ſome were comatoſe; others had a delirium; ſome died in a lethargic ſtupor; others bled to death at the noſe; whilſt others again had none of theſe ſymptoms, but were carried off ſuddenly by an inſtantaneous ſuffocation. The œſophagus, in ſome, was ſphacelated down to the ſtomach; the aſpera arteria, in others, to the lungs. As theſe could only breathe in an erect poſition; ſo thoſe could ſwallow nothing when the parts were ſo affected. The noſtrils diſcharged a fetid ichor, ſometimes mixed with blood; and ſometimes blood alone, without mixture. This bleeding at the noſe ſeemed at firſt, in one caſe, to give relief; but the patient ſoon after died *. Mercatus relates an inſtance of a child that had the diſeaſe, in which the acrimony of the humour diſcharged from the ulcers was ſo great as to inflame the nurſe's breaſt, and

In aliquibus vero extra, prope cervicem, et infra mentum glandulæ apparent, peſtiferi morbi naturam redolentes, et univerſa cervix, et collum intumeſcunt, et fauces cum robore ſaturato, inſtar laqueo ſuffocatorum.—Merc. Conſult. p. 136.

* Severin. p. 440.

brought

brought on a mortification. He alſo tells us, that the father of the child whoſe caſe is deſcribed above, having frequently put his finger in the child's mouth, to draw out the viſcid phlegm, had his finger inflamed, and was ſeized with the ſame diſtemper *.

Theſe were the ſymptoms in general, and they judged of the event by the mildneſs of their progreſs, or the contrary: though it was agreed, that nothing could be more fallacious than this diſeaſe; and that the moſt experienced were often deceived in their prognoſtic.

If the redneſs of the fauces above deſcribed, which appeared at firſt being ſeized, was ſucceeded by an ulceration, without any of that whiteneſs (which for the future I ſhall call ſloughs), if the ſwelling about the neck and throat was not large, if the patient diſcharged by the mouth conſiderable quantities of thin pituitous matter, if the breath was not fœtid, and the patient had no diſguſt to his food, if the eyes retained their proper luſtre, all was judged to be ſecure.

* —— erat quidem dira humoris conditio adeo perniciofa, efficax et contagioſa, quod digitum patris indicem, quo extrahebat eum ſuccum ab ore filii, mordicaret, et in ruborum moveret cum dolore: tandem mox pater conquerebatur de difficultate reſpirandi et deglutiendi cum dolore et tumore faucium, ac ſaturato colore, et glandulis extra apparentibus juxta mentum. Ex quibus ſecundo die halitum prave olentem expirabat; ita ut jure optimo poſſis colligere, contagio filii patrem fuiſſe affectum.—Mercat. Conſ. p. 139.

On

On the other hand, if the luſtre of the eyes was conſiderably faded *, if the external œdematous tumour was very large, if the breath ſtunk, if the fauces were *livid* or *black*, with a coma or delirium, if with theſe the patient had an averſion to his nouriſhment, and his breathing became difficult or laborious, the danger was judged to be extreme.

It was not obſerved that the diſeaſe had any ſtated criſis; or that the ſigns of recovery, or death, appeared on any certain day. Some died on the firſt, others on the ſecond, third, and on every day, to the ſeventh; though the greateſt part died before the fourth †. Thoſe who ſurvived the fourteenth were thought to be out of danger, at leaſt from the diſeaſe itſelf ‡, though ſome dropped off unexpectedly, after a much longer reprieve §.

At its firſt breaking out in any place, it was commonly the moſt ſevere; it then ſpared no age or ſex, but ſwept off adults together with infants ||.

* Hoc unum ſalutis eſt indicium vel interritus: dum oculorum nitor adſervatur, ſalutis ſpes ſemper adeſt; quo tempore hic deperiit, in propinquo mors eſt.—Ætii Cleti Op.

† —— indies magis ac magis hæc accidentia creſcunt, donec breviſſimo tempore laborantium mâjorem partem perimat, idque non raro intra quartum diem.—Merc. p. 137.

‡ Ætii Cleti Op. de Morbo ſtrangulatorio.

§ Quinimo poſt xxx dies, et xl. jam prærepti morbi furoribus, præter omnium opinionem ex improviſo ſunt extincti. Adeo ſcil. latitans et recondita veneni vis eſt.—Severin. p. 440.

|| — ut peſtis more in citiſſimam mortem pueros et adultos deducat.—Merc. Conſult. p. 135.

By degrees it became lefs violent, and at length either wholly difappeared, or was of fo little confequence as to be difregarded.

We haften now to give an account of the Putrid Sore-throat, as it appeared in London in 1739, and is moft accurately defcribed by the late Dr. Fothergill.

The fudden death of two children in a family of diftinction, and of fome others near the fame part of the town, whofe complaints had chiefly been of a fore-throat, feem to have occafioned a fufpicion that this diforder firft broke out at this time: for a very few cafes of the like nature occurred after thefe; or, if they happened, paffed unobferved, little mention was made of it during feveral years.

It began, however, to fhew itfelf again in 1742, but not in fo general a way as to render it the fubject of much public difcourfe; for though fuch of the faculty as were in the moft extenfive practice met with it now and then, in the city efpecially, it remained unknown to the greateft part of practitioners, till within thefe two or three years, in which time its appearance has been more frequent, both in town and the villages adjacent.

I am informed, that in the winter of 1746, fo many children died at Bromley, near Bow, in Middlefex, of a difeafe that feemed to yield to no remedies or applications, that feveral of the inhabitants were greatly alarmed by it; fome lofing the greater part of their children, after a few days indifpofition.

indiſpoſition. Some others of the neighbouring places were affected at the ſame time with the like diſeaſe; which, from all the accounts I have met with from thoſe who attended the ſick, was that here treated of. I am informed likewiſe, that it raged at Greenwich about the ſame time *. It ſtill continues in this city, and ſometimes ſhews itſelf in the villages about it, though at preſent with ſo mild an aſpect as ſeldom to prove fatal; unleſs the ſubject was very unfavourable, or the diſeaſe had been neglected, or improperly treated at the beginning; which circumſtances, though of ſome importance in all caſes, yet are of the utmoſt in this; as a wrong ſtep at the firſt may put it out of the power of art to afford relief.

Though this diſeaſe has now been amongſt us ſeveral years, and has conſequently ſurvived the different ſeaſons, and alſo the variety of weather to which we are expoſed, yet it ſeems to ſhew itſelf moſt frequently in autumn, and the beginning of winter; at leaſt I have met with many more caſes from September to December incluſive, than in all the other months together.

* The Reader may be pleaſed to take notice, that the facts contained in the following narrative, where the contrary is not expreſsly mentioned, have all come under the Author's obſervation, who has endeavoured to relate what he has ſeen, and in ſuch a manner as he thought would beſt contribute to public advantage. It may alſo be neceſſary to obſerve, that the diſeaſe is deſcribed as it appeared in 1747 and 1748, that if the ſymptoms ſhould hereafter vary in any circumſtance, the diverſity may be attributed to the nature of the diſtemper, and not imputed to deſign or inattention.—*Fothergill.*

In this country, as well as in thofe where the angina maligna was firft taken notice of, children and young people are more expofed to it than adults: a greater number of girls have it than boys; more women than men; and the infirm of either fex are more liable to have the difeafe, and to fuffer from it, than the healthy and vigorous.

When it breaks out in a family, all the children are commonly affected with it, if the healthy are not kept apart from the fick; and fuch adults as are frequently with them, and receive their breath near at hand, feldom efcape fome degree of the fame difeafe.

It generally comes on with fuch a giddinefs of the head as commonly precedes fainting, and a chillnefs or fhivering like that of an ague-fit: this is foon followed by great heat; and thefe interchangeably fucceed each other during fome hours, till at length the heat becomes conftant and intenfe. The patient then complains of an acute pain in the head, of heat, and forenefs, rather than pain, in the throat, ftiffnefs of the neck, commonly of great ficknefs, with vomiting, or both. The face foon after looks red and fwelled, the eyes inflamed and watery, as in the meafles; with reftleffnefs, anxiety, and faintnefs.

This difeafe frequently feizes the patient in the fore part of the day: as night approaches, the heat and reftleffnefs increafe, and continue till towards morning; when, after a fhort difturbed

flumber

ſlumber (the only repoſe they often have during ſeveral nights) a ſweat breaks out, which mitigates the heat and reſtleſſneſs, and gives the diſeaſe ſometimes the appearance of an intermittent.

If the mouth and throat be examined ſoon after the firſt attack, the uvula and tonſils appear ſwelled; and theſe parts, together with the velum pendulum palati, the cheeks on each ſide near the entrance into the fauces, and as much of them, and the pharynx behind, as can be ſeen, appear of a florid red colour. This colour is commonly moſt obſervable on the poſterior edge of the palate, in the angles above the tonſils, and upon the tonſils themſelves. Inſtead of this redneſs, a broad ſpot or patch, of an irregular figure, and of a pale white colour, is ſometimes to be ſeen, ſurrounded with a florid red, which whiteneſs commonly appears like that of the gums immediately after having been preſſed with the finger, or as if matter ready to be diſcharged was contained underneath.

Generally on the ſecond day of the diſeaſe, the face, neck, breaſt, and hands, to the fingers ends, are become of a deep eryſipelatous colour, with a ſenſible tumefaction; the fingers are frequently tinged in ſo remarkable a manner, that, from ſeeing them only, it has not been difficult to gueſs at the diſeaſe.

A great number of ſmall pimples, of a colour diſtinguiſhably more intenſe than that which ſurrounds them, appear on the arms and other parts.

They

They are larger, and more prominent in thofe fubjects, and in thofe parts of the fame fubject, where the rednefs is leaft intenfe; which is generally on the arms, the breaft, and lower extremities*.

As the fkin acquires this colour, the ficknefs commonly goes off, the vomiting and purging ceafe of themfelves, and rarely continue after the firft day.

The appearance in the fauces continues to be the fame, except that the white places become more afh-coloured; and it is now difcoverable, that what at firft might have been taken for the fuperficial covering of a fuppurated tumour, is really a flough, concealing an ulcer of the fame dimenfions.

All the parts of the fauces above-mentioned are liable to thefe ulcerations; but they generally are firft difcernible in the angles above the tonfils, or on the tonfils themfelves; though they are often to be feen in the arch formed by the uvula and one of the tonfils; and alfo on the pharynx behind, on the infide of the cheeks, and the bafe of the tongue, which they cover in the manner of a thick fur. Inftead of thefe floughs, where the diforder is mild, a fuperficial ulcer, of an

* The rednefs and eruption have not accompanied this difeafe fo regularly, during the latter part of this winter (1754), as they did in the preceding feafons: in fome cafes they did not appear at all; in others, not till the third or fourth day; and, as I have heard, in fome not till the fifth, and even later.

irregular

irregular figure, appears in one or more of theſe parts, ſcarce to be diſtinguiſhed from the ſound, but by the inequality of ſurface it occaſions.

The parotid glands* on each ſide commonly ſwell, grow hard, and are painful to the touch: if the diſeaſe is violent, the neck and throat are ſurrounded with a large œdematous tumour, ſometimes extending itſelf to the breaſt; which, by ſtraitening the fauces, increaſes the danger.

Towards night the heat and reſtleſſneſs increaſe, and a delirium frequently comes on. This ſymptom, which appears in ſome even on the firſt night, ſeems to differ conſiderably from the like affection in other diſeaſes. The ſick commonly anſwer the queſtions put to them properly, but with an unuſual quickneſs; they talk to themſelves incoherently when left alone, and frequently betray the firſt tendency to this diſorder, by affecting too great a compoſure: this, for the moſt part, happens to thoſe who ſleep but little; for ſome are comatous and ſtupid, and take little notice of any thing that paſſes.

In this manner they continue during two, three, or more days: they commonly grow hot and reſtleſs towards the evening; which ſymptoms, and

* Heredia takes notice of the ſame ſymptoms, and aſſigns his probable reaſon for it.—In Angina maligna non tument externa, quia in illas ex externis tranſlata materia fuerit, ſed quia ita adimplentur interna, ut materiam fluentem non capiant, et ſic ad externa dilabitur.—Heredia, p. 99.

the

the delirium, increaſe as night comes on: a ſweat more or leſs profuſe breaks out towards morning; and from this time they are eaſier during ſome hours, a faintneſs only continuing, of which they frequently complain more than of the reſt of their ſufferings.

The diſeaſe ſeems to have no ſtated period which can properly be called its 'Ακμὴ, or height. Some grow eaſier from the firſt day of the attack; but, in general, the ſymptoms of recovery appear on the third, fourth, or fifth day, and proceed in the following manner:

Firſt, the redneſs of the ſkin diſappears; the heat grows leſs; the pulſe, which was hitherto very quick, becomes ſlower; the external ſwellings of the neck ſubſide*; the ſloughs in the fauces caſt off; the ulcerations fill up; the patient ſleeps without confuſion, is compoſed when awake, and his appetite begins to return.

The pulſe, during the whole courſe of this diſeaſe, is generally very quick; frequently 120 ſtrokes, or more, in a minute: in ſome it is hard and ſmall; in others ſoft and full, but without that ſtrength and firmneſs which uſually accompany equal quickneſs and heat, in genuine inflammatory diſorders.

* At leaſt, of all the parts about the neck, except the parotids themſelves; which ſometimes continue ſwelled and hard a long time after the other ſymptoms abate, and at length ſuppurate.

The

The uvula and tonſils are ſometimes ſo much ſwelled, as to leave but a very narrow entrance into the gullet, and this entrance frequently ſurrounded with ulcers or ſloughs; *yet the patients uſually ſwallow with leſs difficulty and pain than might be expected under ſuch circumſtances.*

They frequently complain, ſoon after they are taken ill, of an offenſive putrid ſmell affecting their throats and noſtrils, which often occaſions ſickneſs before any ulcerations appear.

In thoſe who have this diſeaſe in a ſevere manner, the inſide of the noſtrils, as high up as can be ſeen, frequently appears of a deep red, or almoſt livid colour: after a day or two, a thin corroſive ſanies, or with it a white putrid matter of a thicker conſiſtence, flows from them, which is ſo acrid, as to excoriate the part it lies upon any conſiderable time. This is moſt obſervable in children, or in young and very tender ſubjects, whoſe lips likewiſe are frequently of the colour above-mentioned, and covered on the inſide with veſicles containing a thin ichor, which excoriates the angles of their mouths, and the cheeks where it touches them.

It is probable, that part of the ſame acrid matter paſſes with the nouriſhment into the ſtomach; eſpecially in children; and it is perhaps owing to this cauſe in part, that they ſuffer much more from the diſtemper than adults; this corroſive fluid, without doubt, producing the ſame effects

on the ſtomach and bowels, as it does when applied to the much leſs ſenſible ſkin of the face; that is, it excoriates the parts it touches; which, in fact, ſeems to be the caſe: for, if they get over this ſtage of the diſorder, a purging ſometimes ſucceeds, attended with the ſymptoms of ulcerations in the bowels; and after enduring great pain and miſery, perhaps ſome weeks, they generally at laſt die emaciated.

PRACTICAL OBSERVATIONS.

SECT. XX.

HOW THE PUTRID SORE-THROAT IS DISTINGUISHED FROM THE INFLAMMATORY.

FROM the preceding account of the fore-throat attended with ulcers*, it will, I believe, appear, that this difeafe is widely different from a common fore-throat, or fimple inflammation of any of the parts about the fauces; both as to the fubject commonly affected by it, the manner of its attack, the progrefs of the fymptoms, and its conclufion: for the fore-throat with ulcers generally attacks children; and of thefe, girls more frequently than boys, as has been obferved. Or if adults are feized with it, they are commonly fuch as have been very much converfant with the fick, or elfe are weak and infirm: and it feems to affect thofe adults in the fevereft manner, who have been previoufly indifpofed, or whofe ftrength has been

* The difeafe here treated of is, ftrictly, "a Sore-throat;" fince by forenefs we aptly exprefs the uneafy fenfation accompanying an ulcer, and not that which attends an inflammation, which is indeed pain, but not properly forenefs.

reduced by unſeaſonable or immoderate evacuations.

On the contrary, the common angina, or an inflammation of the tonſils, moſt frequently attacks the healthy, the vigorous, and robuſt; the weak, the delicate, and infirm, are leſs expoſed to it, at leaſt ſuffer leſs from it, than the former.

As both diſeaſes are attended with a fever, and as moſt fevers come on with ſhivering, or chillneſs, this ſymptom may at leaſt appear equivocal: but if ſickneſs, or vomiting, or purging, or an acute pain of the head, towards the back parts or top eſpecially, or if all theſe come on in the ſpace of a very few hours, which they generally do where the diſeaſe is vehement, it may juſtly be eſteemed to be of the putrid kind; and if with theſe ſymptoms an eryſipelatous redneſs diſcovers itſelf in the fauces, with ulcerations or ſloughs, the diſeaſe is evident.

In ſome caſes, the ſymptoms have been ſo obſcure, that it was difficult to determine to which diſeaſe they properly belonged: but in theſe circumſtances they were commonly ſo favourable, that, ſuppoſing the diſorder not to be of the ulcerated kind, no other inconvenience ſeemed likely to enſue from treating it as ſuch, than a ſuppuration; which is often an event rather to be choſen than avoided.

The

The rednefs of the fkin in the face, neck, breaft, and hands, is another obvious and diftinguifhing characteriftic, which in children, and young people efpecially, feldom fails to accompany this diforder.

In the common fore-throat, a *local inflammation* is the difeafe; all the fymptoms are derived from this fource; and an acute throbbing pain, greatly increafed upon fwallowing even liquids, is the principal grievance. In the other, the whole habit fuffers, as if by a ftimulus of a peculiar nature; and although the throat is always more or lefs affected, yet it is fometimes the leaft part of the patient's complaint; and inftances have occurred to me of confiderable floughs being formed, before any forenefs or pain in the fauces has been mentioned.

Again, this difeafe is accompanied with a greater tendency to a delirium, than either a common angina, or almoft any other diftemper we are acquainted with. To have this fymptom appear, in the difeafe we are treating of, on the firft night, is not uncommon; and on the fecond, frequent. A girl about eight years of age, whom I attended, was fcarce known to be indifpofed, till fhe alarmed the family by appearing to be light-headed. She had made no complaint of her throat, nor was this part thought to be affected, till upon examination I found it fo; being led to fufpect it by the colour of her hands, and the delirium. She got well through the difeafe,

though

though its progreſs, at firſt, appeared to be very ſwift.

A common ſore-throat, if the patient recovers, either goes off by reſolution, or the parts affected ſuppurate; or, if glandular, become hard and ſchirrous.

In that attended with ulcers, none of theſe circumſtances happen; for it terminates in a ſuperficial ulceration of ſome of the parts about the fauces, if the diſeaſe is very mild, with little appearance of any ſloughs, and with large and deep ones, of a white cineritious, *livid* or *black* colour, if it is more violent.

PRACTICAL OBSERVATIONS.

SECT. XXI.

TREATMENT OF THE PUTRID SORE-THROAT.

DR. FOTHERGILL concludes his valuable account of the putrid ſore-throat thus: "*To expel the morbific matter ſeems to be the deſign of Nature, and to promote this deſign, is the duty of the phyſician.*" This great and benevolent character, in writing to Dr. Withering, whoſe method of cure in this diſeaſe was that of repeated vomits, obſerves:

"It is indeed to be feared, that the too early uſe of bark and wine, often proportioned to the alarm of the practitioner and family, has hurried many to an untimely grave. Although in the progreſs of this diſeaſe, theſe may be indicated to keep up the tone of totally enervated veſſels, if I may be allowed that expreſſion, yet in the early ſtage they have, and muſt do abundant miſchief."

I cannot refrain from obſerving, that a ſort of fatality has attended the treatment of diſeaſes termed Malignant; I mean the general belief, that medicines called Alexipharmic, or Cordial, are alone able to overcome malignity, in whatever

ſhape

ſhape it may appear. Upon what principles of philoſophy or chymiſtry thoſe practitioners proceed, who have adopted ſuch ideas, they beſt can tell: that they continue to entertain them againſt the evidence of the moſt glaring facts, beſides the want of ſucceſs in many inſtances, is what gives me moſt concern, and will, I doubt not, with candid minds exculpate me, not only for the ſtrictures I have made on the preſent method of treating putrid fevers in general, but alſo for any I ſhall make on the uſual management of the malignant ſore-throat in ſeveral important particulars; and the rather, as I perſuade myſelf they will ſee how much I am diſpoſed to fall in with their ideas where they are eſtabliſhed on ſolid principles, and where manifeſt ſucceſs, as well as ſound phyſiology, give a ſanction to their utility.

If patients are treated properly from *the firſt*, with one or two vomits, the inflammation of the fauces is prevented from running ſo high, as to effuſe their contents, and no ſloughing appears, or if it does, it never increaſes. But when that inflammation is ſtill further encreaſed by large and frequent doſes of bark, and wine often in the intervals, it is truly melancholy afterwards to witneſs how the tumefaction is encreaſed, and how rapidly the whole lining of the fauces is converted into an offenſive ſlough.

If it be urged that ſucceſs has attended this practice, the fact ſeems to be, that in mild caſes

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an improper mode of treatment is not highly detrimental: it is only in the more dangerous ſtates of the diſeaſe that we can do much good or much harm. And I am ready, ſays Dr. Withering, to confeſs, that in two or three of the firſt bad caſes I ſaw, miſled by ſo many marks of putreſcency, I early gave the bark; but the conſequences were not ſuch as could juſtify a continuation of its uſe.

Upon the whole, it appears then, that the ſame analogous reaſoning applies to this as the other morbid poiſons, and the indication firſt to be obſerved is that of a vomit. This ſhould be repeated, after which a cathartic may be adviſeable, and now it may become neceſſary to fortify the ſtrength of the patient, ſo as to maſter the aſſaults of this inſidious and dangerous enemy, by means of bark, wine, ſerpentaria, opium, and other medicines of this claſs.

The ulcers in the throat demand our early and conſtant attention, as a conſiderable loſs of ſubſtance cannot here be ſuffered without immediate danger to life itſelf, or the moſt injurious conſequences to the future action of the parts, if the patient ſurvives.

Where the diſeaſe is of the mildeſt kind, a ſuperficial ulceration only is obſervable; which may eaſily eſcape the notice of a perſon unacquainted with it. A thin, pale, white ſlough ſeems to accompany the next degree: a thick, opaque, or aſh-coloured one is a further advance;

and if the parts have a *livid* or *black* aſpect, the caſe is ſtill worſe. Theſe ſloughs are not formed of any foreign matter ſpread upon the parts affected as a cruſt or coat, but are real mortifications of the ſubſtance; ſince, whenever they come off, or are ſeparated from the parts they cover, they leave an ulcer of a greater or leſs depth, as the ſloughs were ſuperficial or penetrating.

When the tendency to putrefaction is ſtopped, theſe ſloughs in moſt caſes come off ſpontaneouſly; or their ſeparation may be promoted by ſuitable remedies and applications: but it ſeems by no means adviſeable to attempt it by force, or to ſcrape them off with the fingers or inſtruments, as Severinus propoſes; ſince the experiment has been tried, but with ſuch unhappy conſequences*,

* Si quis tamen vel digitis, vel aliquo inſtrumento levi ipſam (materiam albam) auferre tentâſſet, quamvis operatio hæc fieret abſque dolore, ea tamen ablata breviſſimo tempore peribant ægrotantes; quod præ cæteris in Petro Soprano genero meo obſervatum eſt, cui cum hujuſmodi mortificatio apparuiſſet in ſuprema ſuperficie dictarum glandularum faucium, et palati, ita ut videretur eſſe maximo reſpirationi et deglutitioni impedimento, chirurgis exiſtimans poſſe facillimo negotio a ſubjectis partibus eam ſeparari ſolis digitis, leviſſime quidem eam abſtulit; quæ ablata, tantum abeſt ut juverit deglutitionem aut reſpirationem, ut utraque potius actio læſa magis fuerit, unde breviſſimo tempore miſer, meo cum maximo dolore, mortem oppetiit; id quod etiam in aliis quamplurimis pueris ſæpius obſervavi, et præſertim in ejuſdem Petri filiolo nepoti ex filia, quinque annorum, mihi cariſſima, qui poſt paucos dies eodem modo, quo pater, vitam cum morte mutavit.—Corteſ. Miſcel. Med. p. 697.

as are ſufficient to diſcourage one from perſiſting in this method*.

In a caſe where I was concerned, previous to my being called in, a ſurgeon had endeavoured to ſeparate the ſloughs by the aſſiſtance of his probe: he ſucceeded in his attempt without much difficulty; but was ſurpriſed to ſee the ſame parts covered the next day with thick, dark, aſh-coloured ſloughs, penetrating deep into the ſubſtance.

It is true, the ſloughs have been ſometimes ſcarified, from an apprehenſion that matter was lodged underneath them, without any manifeſt inconvenience; but as there are inſtances of fatal mortifications having enſued, it ſeems moſt prudent to decline the practice.

From under theſe ſloughs, and from every part of the ulcers which they cover, a thin corroſive ichor is diſcharged, ſo acrid as to excoriate the external parts upon which it is ſuffered to remain. This is ſometimes obſervable in adults, when the parts above the fauces are affected; the ichor in theſe caſes flows through the noſtrils, and frequently raiſes pimples and ſmall bliſters on the ſkin of the upper lip; but it is moſt obvious in children, who often have this part, the corners of

* Quod ſi enim adhærentem adhuc cruſtam avellere aggrediamur, ulcerationes magis in profundum procedunt, et inflammationes conſequuntur, augentur dolores, et in ulcera ſerpentia proficiunt.—Heredia, p. 109.

the mouth, and the cheek on which they commonly lie, bliftered or excoriated.

It is probable, as has been already hinted, that part of the fame virulent matter, paffing down the æfophagus into the ftomach and inteftines, acts upon them as it does upon the fkin, when applied to it externally; it frets and corrodes the parts it touches, and produces that ficknefs, vomiting, purging, and faintnefs, which fometimes accompany this difeafe in different parts of its progrefs.

In children, and very young fubjects, the fymptoms arifing from this caufe are yet more dangerous: the natural foftnefs and laxity of the parts liable to be affected, difpofes them to fuffer by it much more than adults: at the fame time they are commonly alike incapable of promoting the difcharge of this matter themfelves, and of admitting affiftance from others, being generally, if the diftemper is not very mild, either comatous and ftupid, or delirious and untractable.

That this corrofive matter produces thefe effects is farther confirmed, by obferving, that thofe whofe throats are feverely affected, if they have a plentiful difcharge from the fauces, are feldom diftreffed with ficknefs, vomiting, or exceffive faintnefs; though after longer fleeps than ordinary, or a neglect of encouraging this evacuation, they have complained of ficknefs, and have had retchings come on: and in fuch cafes, where

there

there has been little or no discharge of this kind, the symptoms are commonly the most dangerous.

From hence it is obvious, that great advantages may be expected from the constant use of acidulous gargles; as they promote the discharge of the pituitous matter flowing to the fauces, and doubtless, with it, of some part of the corrosive fluid above-mentioned: to which if we add antiseptics and detergents, in order to check the progress of the mortification, and cleanse the sordid ulcers it produces, every indication is provided for.

Where the disease is mild, the symptoms favourable, the sloughs superficial, or scarce perceptible, it may be sufficient to order a gargle of sage-tea, with a few rose leaves added in the infusion; three or four spoonfuls of vinegar may be mixed with half a pint of the tea, and as much honey put to it as will leave it agreeably acid.

But where the symptoms are urgent, the tendency to putrefaction great, the sloughs large and thick, and the breath offensive, recourse must be had to more efficacious remedies: a composition like the following, varied only as the patient's age and the circumstances of the disease required, has in general been attended with very good effects. The proportion here given may be used for adults, and the more active parts lessened for younger subjects.

R. Decoct.

R. Decoct. Hordei, unc. 12,
Cui inter coquendum adde rad. contrayerv. contuſ. unc. 6.
Liquori colato admiſce acet. vin. alb. unc. 2.
Tinct. Myr. unc. 1.
Mel. opt. dr. 6. f. gargariſma.

That is, take of
Barley water, 12 ounces.
To which, whilſt preparing, add
Contraerva root bruiſed, unc. 6.
To the ſtrained liquor add,
White wine vinegar, two ounces,
Tincture of myrrh, one ounce,
Beſt honey, ſix drachms,
So as to make a gargle.

As the parts about the gullet are frequently ſo much affected, as to render it painful or impracticable for the ſick themſelves to make uſe of the gargle ſo freely as they ought, it is commonly ordered, that a few ſpoonfuls of this liquor, made ſomewhat warm, ſhould be very often injected into the fauces with a ſmall ſyringe; and eſpecially before the patient ſwallows any thing, in order to waſh off as much as poſſible the putrid ſordes adhering to the ulcers, and prevent it from paſſing into the ſtomach and bowels*. In young

* The ſame caution was given by Heredia, and almoſt in the ſame terms.—Cujuſque rei deglutitionem (præcedat excrementorum oris excreatio, deterſio, ne lotione venenoſa excrementa cum rebus deglutiendis ferantur ad viſcera. p. 109.

ſubjects

ſubjects this method is the more neceſſary, as they do not always know how to manage a gargle to any purpoſe, did the ſoreneſs of the parts permit them to do it*.

As ſo much depends upon the frequent uſe of gargles, or rather of injections, a ſtrict attention to this affair can ſcarcely be too ſtrongly enjoined on thoſe who have the care of the ſick committed to them; ſince an aſſiduous repetition of theſe lotions not only promotes a diſcharge from the glands of the throat, which is probably of great uſe, but retards the progreſs of the ulcers, by waſhing off the putrefactive corroding virus, and prevents a large train of very dangerous ſymptoms; and has, therefore, been ſtrenuouſly inſiſted on by ſeveral writers, eſpecially by Mercatus†.

The following mercurial ſolution is ſtrongly recommended by Mr. Townſend, upon the authority of Mr. Wathen.

R. Hydr. purif.
Hydr. muriat. aa unc. 1.
Acet. vin. diſtil. unc. 8.
Agita per horam totam, et poſt horas duas cola, colaturæ adde acet. vin. q. s. donec cum ſpir. cor. cerv. nihil dejecerit.

* — cum pueri nequeant gargariſmatis uti, injiciantur cum ſyringa. Idem, ibid.

† Cavendum eſt diligenter, ne ſic affecti deglutiant propriam ſalivam, quinimo ora puerorum diligentiſſime ſunt abluenda.—Mercat. p. 137.

That

That is, take of

Quickſilver,

Muriated mercury, equal parts, one ounce,

Diſtilled vinegar, eight ounces.

Shake theſe during a whole hour in a bottle. Let it ſettle, and then pouring off the clear ſolution, add to it ſo much of the vinegar, until the ſolution ceaſes to precipitate a white cloud with ſpirits of hartſhorn. It is then fit for uſe.

A bit of lint rolled on a probe, and made moiſt with this, is to be applied once a day to each ulcer.

If the ſloughs are large, and caſt off ſlowly, they may be touched with oxymel Æruginis, by means of an armed probe; or if the condition of the fauces is ſuch, that this cannot conveniently be done, a ſpoonful of the following gargle may be injected, and retained in the throat as long as the patient can endure it; the parts may then be waſhed two or three times with the gargle alone.

R. Gargariſm. præſcript.* unc. 2.

Oxymel Æruginis dr. 1. m.

That is, take

Of the former gargle*, eight ounces,

Oxymel of verdegres, one drach.

Mix for a gargle.

* See p. 286.

PRACTICAL OBSERVATIONS.

SECT. XXII.

OF THE MARINE ACID IN PUTRID SORE-THROAT.

Reading a pamphlet, publiſhed in 1664, by one Conſtantine Rhodocaracides, on the great virtues of the internal and external uſe of muriatic acid, I was induced from this, ſays Sir William Fordyce, to uſe it internally in all putrid fevers and malignant diſeaſes; and this I have done with continued ſucceſs ever ſince, eſpecially where I found the tongue black and dry, with a black glare on the teeth, and the worſt ſort of ſore-throat; and it has proved, in truth, wonderfully efficacious on ſuch occaſions, in checking the dyſcraſy of the humours, in reſtoring the vital powers, that are more or leſs broken down according to the degree of putrefaction, and in changing the petechiæ from a purple to a brown, and ſtill more diluted colour, till they become quite evaneſcent.

I might here mention, adds Sir William, a great variety of caſes, to illuſtrate its ſurpriſing power in correcting the moſt putrid ſtate of the juices;

juices; but ſhall confine myſelf to a few, which I hope will be ſufficient.

The Earl of Bute uſed often to mention how ſenſibly he felt the ſalutary effects of the mel-roſæ, to which was added the ſpirit of ſea-ſalt*, when applied to his tonſils by Sir William Duncan, in the year 1760, when his lordſhip was ſeized with the malignant ſore-throat, when many, even adults, fell ſacrifices to this diſorder. This was among the firſt fruits of ſo invaluable a remedy.

When the late Earl of Morton charged me with the care of the preſent Lord, while a youth, labouring under the ſame diſtemper, I comforted his Lordſhip extremely in the hope of preſerving his ſon, if I could have time to pickle his juices with the ſpirit of ſea-ſalt; which I did very largely, and it ſucceeded. After this, he recommended me warmly to thoſe of his friends who required ſuch pickling in ſimilar caſes.

The children of Mr. Jeacock, Belton-ſtreet, Long-acre (attended by Mr. Tooſey, apothecary, in that neighbourhood), were ſeized with all the worſt ſymptoms of the malignant ſore-throat. They were recovered in the ſame manner, to the amazement of the father and the apothecary.

Mr. Gallini's ſon had the putrid ſore-throat and ſcarlet fever, in the moſt violent manner I had

* An ounce of the mel-roſæ to 16 drops of the muriatic acid.

4 ever

ever ſeen; he was covered all over with petechiæ. He owed his recovery to the abundant uſe of the muriatic acid. He alſo loſt his ſkin like a ſnake. It was ſtripped off his hands and fingers like gloves, which I carried home with me.

Having been requeſted, when it was too late, to look in on Miſs Grace, of Cornhill, I found her dangerouſly ill of the malignant ſore-throat, with petechiæ and delirium. I directed the uſual medicines, as bark, Mindererus's ſpirit, and camphire. When I viſited her next morning, a nurſe and child were ſitting on the bed; of which I expreſſed the higheſt diſapprobation, from a fear of the child's catching the infection. When I returned, I found Miſs Grace a corpſe; and the child died that morning. Three female ſervants had taken to their beds, with ſymptoms of the malignant ſore-throat, and innumerable petechiæ. Their tonſils and parotid glands were ſwelled externally to an extraordinary height, and their hands, up to the wriſt, were as purple as violets. From the quantity of bad ſymptoms, theirs were the very worſt caſes of the malignant ſore-throat I have ever witneſſed; yet they all recovered in the courſe of three weeks, by purſuing the ſame plan. To prevent the ſpreading of this diſeaſe in the family, I took every poſſible precaution, by ventilation and fumigation with vinegar, which ſucceeded to my wiſh.

Sir William Fordyce obferves generally, that in a great military hofpital which he fuperintended during nineteen years, *not one died* of putrid fever, or putrid fore-throat, although many had thefe diforders in their worft form.

Sir William concludes with obferving, that where there was a loofenefs, he generally corrected the irritating humour with whey made in the following manner:

R. Lact. vaccin. lb. $1\frac{1}{2}$.
Aquæ puræ, lb. $\frac{1}{2}$.
Simul ebulliant; dein admifce vini Rhenani veteris, vel vini albi cujufvis Hifpanici, unc. 2. fucc. limonior. unc. 1. ut fiat ferum.

That is, take of
Cow's milk, a pint and a half,
Water, half a pint.
Boil them, and then add of old Rhenifh, or any Spanifh wine, two ounces, with an ounce of lemon juice.

Or he gave lemonade, or tamarind tea, or imperiale. I never, he adds, faw the loofenefs treated in this manner do hurt, though the purging is commonly dreaded as the greateft fcarecrow in the malignant fore-throat.

PRACTICAL OBSERVATIONS.

SECT. XXIII.

THE MUMPS.

The Cynanche Parotidæa, or Mumps, is a contagious diforder, affecting only children. In this difeafe the fever is flight, which fubfides upon the appearance of a tumour under the jaw, near its extremity, which goes on extending from the parotid to the maxillary glands, until it covers a great part of the neck, fometimes on one fide only, but more commonly on both. The fwelling continues to encreafe until the fourth day, from which period it declines; the tumour refolves, and the little fufferer is left, in general, very well.

This diforder is fo very flight, for the moft part, that nothing more is required, than 20 or 30 drops of antimonial wine in a glafs of water. To be repeated every five or fix hours.

PRACTICAL OBSERVATIONS.

SECT. XXIV.

OF THE ORIGIN AND NATURE OF THE PUERPERAL FEVER.

THE late Dr. Thomas Young, profeffor of midwifery, in the univerfity of Edinburgh, although he printed nothing on the fubject of the Puerperal Fever, wrote a very ingenious differtation refpecting it, which was read in the Philofophical Society of Edinburgh. In that differtation, after giving a very accurate account of the fymptoms of the difeafe, which coincides very nearly with the account given by others, he endeavours to fhew, that the puerperal fever, ftrictly fo called, is in every inftance the confequence of contagion; but he contends, that the contagious matter of this difeafe is capable only of producing its effect, in confequence of a peculiar predifpofition given by delivery and its confequences. In fupport of this doctrine, he remarks, that for many years the difeafe was altogether unknown in the lying-in-ward of the Royal Infirmary at Edinburgh; but that after it was once accidently introduced into the hofpital, almoft every woman was in a fhort time

time after delivery attacked with it; although prior to her delivery, ſhe may have lain even for weeks together, not only in the ſame ward with the infected, but even in the very next bed. He remarks, that it was only eradicated from the hoſpital in conſequence of the wards being entirely emptied, thoroughly ventilated, and new painted. After theſe proceſſes, puerperal females in the hoſpital remained as free from this diſeaſe as formerly. The puerperal fever, according to Dr. Young, has very generally a ſtrong tendency to the typhoid type; although he allows, that in the beginning it is not unfrequently attended with inflammatory ſymptoms, and even with topical inflammation, particularly in the inteſtinal canal. On this idea, he conſiders the puerperal fever as admitting of the ſame variety of treatment with other affections depending on contagion, in which ſometimes an inflammatory, ſometimes a putreſcent tendency prevails; ſuch, for example, as ſmall-pox or eryſipelas. But from the prevailing putreſcent tendency in this affection, he conſiders the free acceſs of cool air, with the liberal uſe of antiſeptics, as being very generally requiſite.

This fever is moſt commonly incident to women within 48 hours after delivery, though it may ſupervene on the fourth or fifth day, and ſometimes conſiderably later. It is preceded, like other fevers, by a rigour, which is commonly violent; and, when happening during the time of labour,

may be confounded with the pains of parturiency. In its earlier ſtage it is attended with the ſigns of inflammation. A great pain is felt in the back, hips, and the region of the uterus; which, in the part laſt mentioned, is accompanied with the ſenſe of heat and throbbing. The patient is frequently troubled with a teneſmus; and the urine, which is very high coloured, is diſcharged in ſmall quantity and with pain. At the firſt attack of the fever, the woman is generally ſeized with a vomiting of porraceous matter, as in the cholera morbus, to which diſeaſe it then bears a ſtrong reſemblance. But inſtead of this ſymptom, there is ſometimes only a nauſea, or loathing at the ſtomach, with a diſagreeable taſte in the mouth. The belly ſwells to a conſiderable bulk, and becomes ſuſceptible of painful ſenſations from the ſlighteſt impreſſion. The tongue is generally dry, though ſometimes moiſt, and covered with a thick browniſh fur. At this period, if not at the very beginning of the diſorder, a bilious or putrid diarrhœa, of a dangerous and obſtinate nature, ſupervenes, and accompanies it through all its future progreſs; each motion to ſtool being preceded by a temporary increaſe, and followed by an alleviation of pain. Through the whole courſe of the fever, the patient is affected with great anxiety and dejection of ſpirits.

PRACTICAL OBSERVATIONS.

SECT XXV.

OF THE CURE OF THE PUERPERAL FEVER.

Physicians have been much divided refpecting the proper treatment of this difeafe, as happens alfo in every other cafe of infection, for want of a due confideration of the laws of the animal œconomy.

The queftion that has been more than any agitated is that of bleeding. Dr. Leake, who publifhed his obfervations on this difeafe, affirms that venefection is the only remedy which can give the patient a chance for life But, though it be the principal refource to be depended upon at the beginning of the fever, he very prudently obferves, that it will feldom prove of fervice after the fecond or third day; and, if directed yet later, will only weaken and exhauft the patient. At this period the blood begins to be tainted by the abforption of the purulent fluid; and the fever, from being inflammatory, is changed into a putrid nature. Dr. Denman differs much from this gentleman, and thinks we may fafely affirm from experience, that for one who will be benefited by large bleeding,

ing, a much greater number will be injured, and that even almoſt irretrievably. Nor can this ſeem ſurpriſing, when we conſider the ſituation of child-bed women. Experience in this, as in all other diſeaſes, is the only unerring guide we can follow; and whoever regulates his practice by fact and obſervation, will be convinced that bleeding, eſpecially in a larger quantity, is, in general, very far from being attended with ſucceſs. Bleeding is ſeldom proper, except in women of plethoric conſtitutions, and in whom ſigns of inflammation riſe high. Nor even in ſuch patients ought it to be repeated without great caution, and the exiſtence of ſtrong indications. Bleeding, when uſed in proper circumſtances, may unqueſtionably palliate the fever; but that it often ſhortens the duration of it, appears to be a matter of much doubt. On this account the practice becomes ſtill more ſuſpicious and exceptionable, when we conſider that by veneſection improperly uſed, the perſon's ſtrength may be ſo far reduced as not to ſupport the tedious looſeneſs by which the diſeaſe is generally carried off. Though bleeding, however, ought in general to be uſed with great caution, there are certainly many caſes in which it is both neceſſary and advantageous.—Thus far Dr. Denman.

I have the more readily given this diſputation, as *the abſtraction of ſtimuli* may perhaps be better performed by evacuating the primæ viæ, probably

the

the firſt ſeat of this diſeaſe, as well as of other morbid poiſons, than by ſhedding of the vital ſtream. On the ſubject of *bleeding* in contagious diſorders, many high authorities have been adduced to ſhew its advantage; but then this muſt be early and plentiful, or the diſorder being but partially ſubdued, there remains leſs of the vis vitæ, powers of life, to reſiſt the influence of the morbid poiſon, and, therefore, unleſs ſtrongly urged to it, I cannot but recommend great *caution* in the uſe of the lancet.

All authors, however, ſeem to be agreed, that evacuating the primæ viæ, is proper. For this purpoſe Dr. Denman uſes the following recipe:

R. Antim. tartar, gr. 2.
Ocul. cancror præp. ſcr. 1.
Intimè miſceantur. cap. gr. 2, vel 6, et repet. p. r. n.

That is, take of
Tartarized antimony, two grains,
Prepared crabs eyes, one ſcruple.
Mix them. The doſe is from two to ſix grains, to be repeated every two hours, until ſome ſenſible effect be produced.

Should the diſeaſe be abated, but not removed, (which ſometimes happens), by the effect of the firſt doſe, the ſame medicine muſt be repeated, but in a leſs quantity, till all danger be over. But

if

if any alarming ſymptoms remain, he does not heſitate one moment to repeat the powder, in the ſame quantity as firſt given; though this be ſeldom neceſſary, if the firſt doſe operates properly.

Frequent doſes of the ſaline draughts ought alſo to be given, which not only promote the evacuation by the inteſtines, but likewiſe increaſe the ſalutary diſcharges of urine and perſpiration. Theſe medicines are particularly ſerviceable in ſubduing the remains of the fever, after its violence has been broken by the moſt efficacious remedies above-mentioned; but when they are uſed even in the decline of the diſeaſe, gentle laxatives of rhubarb and magneſia, as adviſed by Dr. Denman, ought to be frequently interpoſed, ſince, as he juſtly obſerves, without ſtools we can do little ſervice.

In the ſecond ſtage, or period, when the pulſe becomes quick and low, bark and confectio aromatica, or columbo, may be given with great advantage.

PRACTICAL OBSERVATIONS.

SECT. XXVI.

OF THE CHICKEN-POX.

THIS is among the number of animal poiſons producing a diſeaſe, which is attended with ſo little danger, that it would not merit any notice, if it were not apt to be confounded with the ſmall-pox, and thus give occaſion to an opinion that a perſon might have the ſmall-pox twice in his life; or it is apt to deceive into a falſe ſecurity thoſe who have never had the ſmall-pox, and make them believe that they are ſafe when in reality they are not. This eruption breaks out in many, according to Dr. Heberden, without any illneſs or previous ſign; in others it is preceded by a little degree of chillneſs, laſſitude, cough, broken ſleep, wandering pains, loſs of appetite, and feveriſh ſtate for three days.

In ſome patients the chicken-pox make their appearance on the back; but this perhaps is not conſtant. Moſt of them are of the common ſize of the ſmall-pox, but ſome are leſs. Dr. Heberden never ſaw them confluent, nor very numerous. The

The greateſt number was about 12 in the face, and 200 over the reſt of the body.

On the firſt day of the eruption they are reddiſh. On the ſecond day there is at the top of moſt of them a very ſmall bladder, about the ſize of a millet-ſeed. This is ſometimes full of a watery and colourleſs, ſometimes of a yellowiſh liquor, contained between the cuticle and ſkin. On the ſecond, or, at the fartheſt, on the third day from the beginning of the eruption, as many of theſe pocks as are not broken ſeem arrived at their full maturity; and thoſe which are fulleſt of that yellow liquor very much reſemble what the genuine ſmall-pox are on the fifth or ſixth day, eſpecially where there happens to be a larger ſpace than ordinary occupied by the extravaſated ſerum. It happens to moſt of them, either on the firſt day that this little bladder ariſes, or on the day after, that its tender cuticle is burſt by the accidental rubbing of the clothes, or by the patient's hands to allay the itching which attends this eruption. A thin ſcab is then formed at the top of the pock, and the ſwelling of the other part abates, without its ever being turned into pus, as it is in the ſmall-pox. Some few eſcape being burſt; and the little drop of liquor contained in the veſicle at the top of them, grows yellow, thick, and dries into a ſcab On the fifth day of the eruption they are almoſt all dried and covered with a ſlight cruſt. The inflammation of theſe pocks is very ſmall,

ſmall, and the contents of them do not ſeem to be owing to ſuppuration, as in the ſmall-pox, but rather to what is extravaſated under the cuticle by the ſerous veſſels of the ſkin, as in a common bliſter. No wonder, therefore, that this liquor appears ſo ſoon as on the ſecond day; and that, upon the cuticle being broken, it is preſently ſucceeded by a ſlight ſcab: hence too, as the true ſkin is ſo little affected, no mark or ſcar is likely to be left, unleſs in one or two pocks, where, either by being accidentally much fretted, or by ſome extraordinary ſharpneſs of the contents, a little ulcer is formed in the ſkin.

The principal marks by which the chicken-pox may be diſtinguiſhed from the ſmall-pox are,

The appearance, on the ſecond or third day from the eruption, of that veſicle full of ſerum upon the top of the pock.

The cruſt, which covers the pocks on the fifth day; at which time thoſe of the ſmall-pox are not at the height of their ſuppuration.

Morton ſpeaks of the chicken-pox as if he ſuppoſed it to be a very mild genuine ſmall-pox. But theſe two diſtempers are ſurely totally different from one another, not only on account of their different appearances above-mentioned, but becauſe thoſe who have had the ſmall-pox are capable of being infected with the chicken-pox; but thoſe who have once had the chicken-pox are not capable of having it again, though to ſuch as have never had this

diſtemper,

diſtemper, it ſeems as infectious as the ſmall-pox. Dr. Heberden wetted a thread in the moſt concocted pus-like liquor of the chicken-pox which he could find; and after making a ſlight inciſion, it was confined upon the arm of one who had formerly had it; the little wound healed up immediately, and ſhewed no ſigns of any infection.

Remedies are not likely to be much wanted in a diſeaſe attended with hardly any inconvenience, and which in ſo ſhort a time is certainly cured of itſelf. Neverthleleſs a few drops of antimonial wine given, ſo as to produce perſpiration more ſpeedily and certainly, extinguiſhes this mildeſt of all the animal poiſons

PRACTICAL OBSERVATIONS.

SECT. XXVII.

THE ITCH.

The uſes of inſects have employed the pens of many able writers; ſubjects which relate to the convenience or elegancies of life are purſued with pleaſure: the natural hiſtory of ſilk and wax, that of lac, kermes, the cochineal employed in dying, the cantharides and millepędes in medicine, has for that reaſon been very aſſiduouſly inveſtigated. It is certain that the intention of the great Architect of the Univerſe was not confined to our apparent utility alone in their creation; but that by their aſſiſtance the earth ſhould be purified from dead animals and putrefaction, and a proper proportion and natural equilibrium kept up in the numbers of vegetables; further ends were alſo to be anſwered by them; Providence uſes them as miniſters to repreſs the arrogance of mankind, to rouſe them from their inſenſibility, to ſharpen and excite their diligence, or impreſs a conviction upon them of their infirmity and weakneſs. The conſideration of the noxious qualities of inſects will convince us fully of this.

The Acarus ricini * ſometimes ſurrounds us in

* Dog-tick.

great numbers: if we ſit down near them, we become totally covered with them and experience their rage. The fox-coloured and red-ant will hinder our reſting upon a bed of roſes with their pungent ſting and the venom they infuſe with them. The Forficula auricularia * ſometimes endeavours to get into the ear, and unleſs prevented, brings on a head-ache which terminates in death. The Cimex lectularius † is now a very common evil in Europe: it fills our houſes, tapeſtry, and beds, it bites thoſe who are aſleep, and allows thoſe who are waking no reſpite: its ſmell is inſufferable. The Conops calcitrans likewiſe enters our houſes before rain, with its ſharp proboſcis piercing our legs like an awl.

Many ſpecies of the Tabanus ‡ peſter us when abroad, eſpecially againſt a ſhower. The Culex pipiens § with his unceaſing buzz and ſharp bite diſturbs our morning and evening ſleep: near water, in ſummer, this ſpecies of inſect is a perpetual calamity of the moſt ſerious kind; the gnats ſwarm ſo there that they dare not expoſe their faces and hands to the air, unleſs they be covered with pitch. The Culex pulicaris hovering in the evening in great ſwarms are extremely troubleſome; their feet exciting a diſagreeable itching upon the ſkin, and their bite an

* Earwig. † Bug.
‡ The breeze fly. § The common gnat.

inflammation, particularly in Norway. The hornet and waſp attack us with their ſtings, in woods and our own houſes, where we might expect repoſe.

The Pulex Irritans *, in the months of July and Auguſt, by its multiplication, becomes an intolerable plague in our houſes.

The Acari ſirones † ingratiate themſelves under the cuticle of man, ulcerating and covering it with a leprous eruption from head to foot; the irritation it produces is ſo intolerable, that they cannot refrain ſcratching themſelves violently, from whence ariſe ulcers and the moſt intolerable pains.

Many have fancied that we ſhall find in ſome of the ſpecies of the Acari ‡ yet undiſcovered, the cauſe of many cutaneous diſorders, as the herpes, ſerpigo, elephantiaſis, and tinea. I entertain, ſays Baeckner, no very great doubt, although I propoſe it only as a probable conjecture, that the dyſentery, the venereal diſtemper, the ſmall pox, ſpotted fever, plague, and all thoſe other diſtempers which are called contagious, producing exanthemata, and make ſuch havoc in the human ſpecies, are derived from different ſpecies of the acari.

* Common flea.

† Alſo called ulcerating tick, or mite. Its body is oval; head ſmall and pointed; colour whitiſh; two duſky ſemicircular lines on the back; long retainous legs, two ſhort.

‡ Tick.

SECT. XXVIII.

METHOD OF CURING THE ITCH.

THIS filthy difeafe is readily cured by mercurial ointment, by fulphur, and by the vitriolic acid. In the country we frequently apply a quickfilver girdle without the leaft apprehenfion of any evil confequence, or in cafe of timidity in the patient, we caufe him to be anointed with brimftone and hog's-lard.

The following is a very efficacious ointment:

Flor. fulph. lot, unc. 1.
Rad. helleb. alb. dr. 2.
Azung, unc. 2.
Efent. citri, fcr. 1.
F. unguent vefpere utend.

That is, take of

Flowers of fulphur, an ounce,
White hellebore-root, two drachms,
Hog's lard, two ounces,
Effence of lemon, one fcruple.
Mix for an ointment to be employed at bed time.

In

In cities, where the ſmell of ſulphur would diſguſt, it is more common to adopt the following:

R Acid. Vitriol. gtt. 50.
Aq. Roſar. gtt. 20.
Axung. Porcin. unc. 1.
Eſſent. Citri. gtt. 15.
M. f. Liniment. m. et v. utend.

That is,

Hog's lard, one ounce,
Vitriolic acid, fifty drops,
Roſe water, twenty drops,
Eſſence of lemon, fifteen drops.

Make an ointment to be uſed morning and evening.

The patient may likewiſe waſh two or three times a day with elder-flower water, acidulated with vitriolic acid, thirty drops to a wine glaſs.

This plan of cure by vitriolic acid may be forwarded by an electuary of nitre one drachm, with ſix drachms of ſulphur mixed up in honey, of which the patient may take the ſize of a nutmeg three times a day.

Bathing in Harrowgate water very ſpeedily effects a cure.

PRACTICAL OBSERVATIONS.

SECT. XXIX.

OF THE VENEREAL POISON.

One of the moſt dreadful of our * diſeaſes, that ſcourge, with which in this life offended Heaven chaſtens the indulgence of criminal deſire, appears to have its original from the Americans. By this retaliation on their conquerors, they have not only amply avenged their own wrongs, but have alſo perhaps more than counterbalanced all the benefits which Europe has derived from the diſcovery of the New World. Aſtoniſhment and terror accompanied this unknown affliction in its progreſs, and men began to dread the extinction of the human race by ſuch a hard viſitation. The diſeaſe at firſt was ſuppoſed to be propagated by the breath, and thoſe affected with this dreadful diſtemper were exiled from Paris by an edict of the king. Its true nature, however, ſoon became better underſtood, and the enemy by his frequent viſits appeared leſs formidable, and the power of art was found at length able to overcome this Proteus-monſter.

* Some poiſons ſeem peculiarly to affect man, for brutes have no hooping-cough, meaſles, ſmall pox, nor has inoculation of the venereal poiſon been found to have the leaſt effect upon them.

Delicacy would have prevented me even mentioning the venereal poiſon; but when I conſider that it belongs to a claſs of poiſons whoſe action is ſlow and deceiving—when I ſee the country people, once ſo blooming and robuſt, the proper ſtock for ſupporting the race of men, through the more frequent connection with the city, from the greater facility of travelling—when I ſee them very generally eat up by this moſt loathſome of all the poiſons, the bones of the noſe and palate rotted, the beauty of face and ſpeech deſtroyed, the body covered with copper coloured ulcers, the period of reſt rendered to them the time of inſufferable torment from pains along the ſhin-bones, and finally in the forehead—when I ſee fine youths, the darlings of their parents, the hopes of their country, thus ſeverely ſmarting perhaps for the folly of one unguarded moment—when I ſee it alſo ſometimes inſinuate itſelf privately into the circle of domeſtic felicity, and the virtuous wife a prey to a poiſon ſhe does not underſtand, and extending its influence at the ſame time to the innocent offspring, I cannot refrain ſhewing the means of diminiſhing ſo growing an evil *.

It has long been my opinion, ſays the benevolent Dr, Buchan, that much of the miſchief occaſioned

* I might have alſo produced here the apology of Sydenham. " I have met," ſays this illuſtrious phyſician, " with ſeveral, who either with a good intent, in order to deter the inconti-nent

ſioned by the venereal diſeaſe might be prevented, and that whoever effects this purpoſe will be a great benefactor to ſociety. This important point can only be accompliſhed by endeavouring to advance the morals of the people, and when the diſorder is obtained, to point out the danger and the means by which its bad conſequences may in general be obviated.

An attention to health, which ought to be a primary object in the education of children, is ſeldom conſidered as even a ſecondary one; while trifling accompliſhments, of little importance in the purſuits of life, generally engroſs the attention both of father, ſon, maſter, and ſcholar.

Young men are prodigal of life. They throw it wantonly away at the very time it is moſt worth preſerving, nor do they know the value of health till it is loſt. Many a painful hour might be prevented by a few cautions duly impreſſed on

nent from their vicious practices, by the apprehenſion of the ſucceeding puniſhment, or to acquire the character of chaſte perſons, have not ſcrupled to aſſert that the cure of the venereal diſeaſe ought to be kept ſecret. But I cannot be of their opinion, becauſe I conceive that there would be very little room left for charity, unleſs the misfortunes which the inconſiderate bring upon themſelves by their own fault were to be alleviated with humanity and tenderneſs. It belongs to God to puniſh the offence, but it is our duty to aſſiſt the diſtreſſed, and relieve the diſeaſed to the beſt of our power, and not to make too ſtrict an enquiry into the cauſe of the evil, and irritate them by our cenſures. For this reaſon, therefore, I will deliver what I have obſerved and experienced in this diſeaſe; not that I intend to make men's minds more vicious, but to cure their bodies, which is my province."

the

the young mind. Early impreſſions are ſeldom eradicated. They generally form the conduct, and become the rules of life. Were a young man taught to believe that the paths of pleaſure lead to deſtruction; that if he purſues them, he will never arrive at mature age, but fall the early victim of loathſome diſeaſe, he would learn to conſider pleaſure as his greateſt enemy. The genuine conſequences of vice need only to be painted in their true colours, in order to make it an object of horror to the youthful mind.

As example has more influence than precept, it might be of uſe to young men were they occaſionally taken to places where the unhappy ſufferers, under the venereal diſeaſe, are congregated.* They would there ſee the wretched condition to which thoughtleſs youth may be reduced by the act of one unguarded moment. I have known the firſt miſtake made by a young man, in this way, coſt him his life; and have ſeen others, who, from a ſingle unhappy connection, were rendered incapable ever after of enjoying connubial happineſs.

Though parents, tutors, and guardians, were to uſe every endeavour to keep youth from the ſnares laid for them by bad women, yet, owing to the want of police in moſt great cities, they would find their efforts equally fruſtrated. It is there the corruption of youth is almoſt unavoidable,

able, and their deſtruction, alas! is but too often the conſequence.

Much might be done towards leſſening the ravages of this baneful malady by the exertions of the public magiſtrate. But to effect this purpoſe would require more ſkill and attention than few magiſtrates would wiſh to encounter. Improper interference in theſe matters does miſchief, and to put bad women under proper regulations would require the moſt conſummate wiſdom. This, however, is no reaſon why lewd women ſhould be ſuffered to prowl about in the public ſtreets without the leaſt reſtraint.

Were men to be ſeen at the corner of every ſtreet in a great city, armed with ſwords and bludgeons, to put every one in fear of his life, who would not comply with their demands: the public mind would be quickly rouſed, and proper meaſures taken to ſuppreſs them; yet the danger is nearly equal from thoſe unhappy females who lie in wait to enſnare the unwary youth as he paſſes along. The young man muſt have uncommon reſolution indeed who can always reſiſt theſe temptations; yet, by yielding in a ſingle inſtance, he may be undone. One ſtep leads on to another, till the unhappy youth, immured in vice, finds it impoſſible to retreat. It ſignifies very little if a man is robbed of his health or property, whether it is done under the influence of fear or luſt.

Even the delicacy of modeſt women is hurt by the number of common proſtitutes which they daily ſee plying in the open ſtreets, and their example muſt have an unfavourable influence on the younger part of the ſex.

Were it my province here to dip into affairs of police, I ſhould think it an eaſy matter to ſuggeſt a plan by which the public ſtreets of great cities might be freed from thoſe women who by night and by *day* infeſt them, without laying any unneceſſary or improper reſtraints on the liberty of the ſubject.

But the grand corrector of this evil are ſuitable laws againſt *ſeduction*, which leads to all the after-miſery attendant upon a life of pleaſure, or rather of miſery, as it ſhould be more juſtly called, ſuch as is well deſcribed in the following ſong:

In a cottage emboſom'd within a deep ſhade,
Like a roſe in a deſert, oh! view the meek maid,
Her aſpect all ſweetneſs, all plaintive her eye,
And a boſom for which e'en a monarch might ſigh;
Then in neat Sunday gown ſee her met by the ſquire,
All attraction her countenance, his all deſire;
He accoſts her, ſhe bluſhes, he flatters, ſhe ſmiles,
And ſoon blue-eyed Mary's ſeduc'd by his wiles.

Now with drops of contrition her pillow's wet o'er,
But the fleece when once ſtain'd can know white-
nefs no more ;
The aged folks whiſper, the maidens look ſhy ;
To town the ſquire preſſes, how can ſhe deny ?
There, behold her in lodgings, ſhe dreſſes all gay,
Vauxhall ſhe attends, or always goes to the play,
Learns to ſquander, they quarrel, his love turns to
hate,
And ſoon blue-eyed Mary is left to her fate.

Still of beauty poſſeſs'd, and not yet void of ſhame,
With a heart that recoils at the proſtitute's name,
She tries for a ſervice, her character's gone,
And for ſkill at her needle, alas! 'tis unknown ;
Pale want now approaches, the pawnbroker's near,
And her trinkets and clothes, one by one diſap-
pear ;
Till at length ſorely pinch'd and quite deſperate
grown,
The poor blue-eyed Mary is forc'd on the town.

In a brothel next ſee her trick'd out to allure,
And all ages, all humours compell'd to endure ;
Compell'd, though diſguſted, to wheedle and
feign,
With an aſpect all ſmiles, and a boſom all pain ;

Now

Now careſſed, now inſulted, now flattered, now
ſcorn'd,
And by ruffians and drunkards oft wantonly
ſpurn'd,
This worſt of all miſery ſhe's doom'd to endure,
For the poor blue-eyed Mary is now an impure.

Whilſt thus the barb'd arrow ſinks deep in her
ſoul,
She flies for relief to that traitor the bowl;
Grows ſtupid and bloated, and loſt to all ſhame,
Whilſt a dreadful diſeaſe is pervading her frame;
Now with eyes dim and languid the once bloom-
ing maid,
In a garret on ſtraw faint and helpleſs is laid!
Oh! mark her pale cheek, ſee, ſhe ſcarce takes
her breath,
And lo! her blue eyes are now ſeal'd up in death!

Or, as is alſo well deſcribed in the following

ELEGY.

Weep o'er the mis'ries of a wretched maid,
Who ſacrific'd to man her health and fame;
Whoſe love, and truth, and truſt, were all repaid
By want and woe, diſeaſe and endleſs ſhame.

Curſe not the poor loſt wretch, who ev'ry ill
That proud unfeeling man can heap, ſuſtains;
Sure ſhe enough is curſt, o'er whom his will,
Inflam'd by brutal paſſion, boundleſs reigns.

Spurn

Spurn not my fainting body from your door,
Here let me reſt my weary weeping head;
No greater mercy would my wants implore;
My ſorrows ſoon ſhall lay me with the dead.

Who now beholds but loaths my faded face,
So wan and ſallow, chang'd with ſin and care?
Or who can any former beauty trace
In eyes ſo ſunk with famine and deſpair?

That I was virtuous once, and beauteous too,
And free from envious tongues my ſpotleſs fame;
Theſe but torment, theſe but my tears renew,
Theſe aggravate my preſent guilt and ſhame.

Expell'd by all, enforc'd by pining want,
I've wept and wander'd many a midnight hour;
Implor'd a pittance Luſt would ſeldom grant,
Or ſought a ſhelter from the driving ſhow'r.

Oft as I rov'd, while beat the wintry ſtorm,
Unknowing what to ſeek, or where to ſtray,
To gain relief, entic'd each manly form,
Each hideous form contemptuous turned away.

Where were my virgin honours, virgin charms?
Oh! whither fled the pride I once maintain'd?
Or where the youths that woo'd me to their arms?
Or where the triumphs which my beauty gain'd?

Ah!

Ah! ſay, inſidious Damon! Monſter! where?
What glory haſt thou gain'd by my defeat?
Behold the miſeries I am doom'd to bear,
Such as have brought me to my winding-ſheet.

The law of the land for *ſeduction* is a penalty of money to be levied by the father for the ſuppoſed incapacity of the daughter to earn her livelihood, and ſuch a law may be inſtantly ſeen to be but the chicanery of law, a mere ſubterfuge. Nothing ſhort of impriſonment in ſolitary cells will ever reſtrain ſo licentious a paſſion as that of luſt.

The confinement of the woman ſhould be ſhort, but ſtill ſhe ſhould be ſo puniſhed. That of the man ſhould be longer. Or if the he-wretch was to be pilloried *, there would be fewer ſeducers, and he merits it as much as thoſe ſhe-devils who are ever prowling about ſeeking whom they may devour.

When a woman has had her fling of debauchery (See the Life of Ann Bellamy), ſhe then ſets

* How ridiculous then would the ſeducer appear, and the boaſt of gallantry would no longer be his unfeeling ſport. At preſent, owing to the puniſhment both for ſeduction and adultery being money, little or no diſgrace is attached to either, and plans are hourly laid to make this the object of extortion, ſo eaſy is it for a nation to be corrupted by *bad laws.*—To encourage an innocent gratification of a proper and uſeful paſſion, every batchelor ſhould pay, beſides taxes, an *income tax* in proportion to his gains. This would prevent celibacy, and the worſt vices. A heavy tax ſhould be laid on thoſe who have unmarried people of a certain age as ſervants.

up a regular traffic of ſacrificing innocence to the ſhrine of gold. She even in different directions has her infants at ſchool, and before they know a paſſion, carry the iniquitous *rich* old man to ſee her nieces, as ſhe ſtiles them, and before they are ripe, the virgins are deflowered by this villain. They are then brought forward to be the common ſport of the world, falſe debts are contracted with the old Jezebel, and when ſickneſs has eat away the roſe of health, and the object of deſire has become but little attractive, the poor wretches are turned adrift to ſeek a worſe fortune in the ſtreets. They there hire clothes for the night at an exorbitant price—pay, to uſe the vulgar expreſſion, through the noſe for every thing, and ſoon after become almoſt naked patients of ſome hoſpital *, or periſh unpitied and for want.

With regard to the ſecond point, I will affirm, that a timely flying to the aſſiſtance of remedies will obviate the greater part of the evil, nor need there be any interference of the practitioner, if remedies be ſeaſonably applied.

* Even heavier afflictions than are right await them in this aſylum of miſery. Dr. Sangrado's practice is that of an hoſpital, ſo many frictions of mercurial ointment without reference to age or conſtitution, is the *rule*, and all are put down into one general ſalivation.

PRACTICAL OBSERVATIONS.

SECT. XXX.

CONSIDERATION OF THE QUESTION, WHETHER GONORRHŒA AND LUES VENERA ORIGINATE FROM THE SAME CONTAGION.

An opinion has been generally received among practitioners, that gonorrhœa virulenta and lues venerea are of the ſame nature, that they originate from the ſame contagion, and are only diſtinguiſhed by the circumſtance of gonorrhœa being a local diſeaſe, while the other is a general affection of the ſyſtem. But as there is cauſe to imagine that theſe diſeaſes ariſe from different ſpecific contagions, and as the eſtabliſhing of one or other of theſe opinions muſt undoubtedly influence the conduct of the cure, it becomes a matter of importance to inſtitute an enquiry into this part of our ſubject.

Both diſeaſes are contracted in a ſimilar way; both, in the firſt inſtance, affect the ſame organs; and they occaſionally appear at the ſame time in the ſame patient: hence it has been concluded, that they have a common origin, and one method of cure has been ſuppoſed applicable to both.

The refuſal of ſome patients to ſubmit to the diſtreſs and inconveniency, the frequent reſult of a

 protracted

protracted mercurial courſe, and who neverthe-leſs recovered from the uſual ſymptoms of gonorrhœa, firſt ſuggeſted a doubt of the two diſeaſes being of a ſimilar nature. It is well known that lues venerea can be certainly cured by mercury only; and the opinion reſpecting the exiſtence of a ſpecific contagion of gonorrhœa, ariſing from this obvious and marked difference in the method of cure, appears to be fixed and eſtabliſhed by the following facts.

The ſymptoms and conſequences of gonorrhœa are perfectly different from thoſe which take place in lues venerea. Both diſeaſes have appeared, at different periods, in the ſame countries; and, in ſome inſtances, they have remained diſtinct and uncombined for a great length of time.

That the ſymptoms of the two diſeaſes are different is univerſally known. A particular detail of ſuch as are peculiar to each will be given in the enſuing ſections. At preſent, it is only neceſſary to obſerve, that gonorrhœa conſiſts of a diſcharge of puriform matter from the uretha; which, even by thoſe who ſupport a contrary opinion, is now admitted to be, in almoſt every inſtance, a *local affection*, and that it very rarely contaminates the general habit of body: while lues venerea is a diſeaſe of the conſtitution, ariſing from the abſorption of venereal virus from any part of the ſurface of the body, but moſt frequently from thoſe only covered with cuticle; by which are produced buboes, ulcers in various

parts,

parts, particularly in the throat, pains and ſwellings in the bones, with a variety of other ſymptoms which it is not at preſent neceſſary to enumerate.

The firſt appearance of the lues venerea is, for the moſt part, in the form of a chancre or ſmall ulcer, juſt as a puſtule of the ſmall-pox. It is univerſally admitted, that even the ſlighteſt affection of this nature is apt to produce the pox, or a general affection of the ſyſtem; inſomuch, that no practitioner of experience will truſt the cure of this ſymptom to local remedies. If the ſore be left to itſelf, it almoſt always becomes worſe. The matter which it affords is taken up by the abſorbents; and buboes, with the other ſymptoms mentioned above, very certainly enſue. Theſe are almoſt the univerſal conſequences of a ſore produced by the venereal virus; but they alſo occur frequently where the ſkin remains ſound and entire; that is, abſorption of the venereal poiſon often takes place where no veſtige of ulceration is perceptible. This, indeed, is denied by many, but I have met with various inſtances of it, and it will be admitted by every practitioner of experience. Now, this being eſtabliſhed, in the application of the venereal virus to every other part of the body, if the matter of gonorrhœa were of the ſame nature, why does it not, in almoſt every inſtance, enter the ſyſtem, and produce pox? So far as we know, the urethra is as plentifully ſupplied with abſorbents as

 other

other parts of the body; the ſame kind of matter, when applied to them here, ought therefore to be productive of ſimilar effects: and hence lues venerea ought frequently, perhaps in every inſtance, to be the conſequence of gonorrhœa, were the matter by which the two diſeaſes are produced the ſame.

As this is a ſtrong argument in favour of the two diſeaſes proceeding from different kinds of contagion, much ingenuity has been exerted by thoſe who ſupport the contrary opinion, in endeavouring to account for it.

In the firſt place, it has been ſaid, that gonorrhœa ſometimes terminates in pox, and therefore, that this of itſelf is a ſufficient proof of the two affections being of the ſame nature.

Were it certain that this ever happened, no farther evidence would be required, as a few well-marked inſtances would be concluſive; but every unprejudiced practitioner will admit, that no ſufficient proofs of it have ever occurred.

In order to ſupport this opinion, data muſt be received, which we know to be inadmiſſible. We muſt admit, that a perſon with chancres only, communicates to another, not only every ſymptom of pox, but of gonorrhœa, and that another with gonorrhœa only gives to all with whom he may have connection, chancres with their various conſequences. This ought, indeed, to be a very

common

common occurrence, infomuch that every practitioner fhould be able to decide upon it with certainty, if this opinion was well-founded; inftead of which, it will be admitted by all that the one difeafe being produced by the other is even, in appearance, a very rare occurrence. I have paid much attention to the point in queftion; and in almoft every inftance, and where the moft particular enquiries were made, it has proved, from enquiry, that a perfon infected with gonorrhœa has received it from another evidently labouring under that difeafe, and that chancres have been communicated by fuch as were diftreffed with chancres only.

This, I am convinced, will be very commonly found to be clearly the cafe, fo that a few inftances, bearing fome appearances of the contrary, are much more readily explained on the idea of the two difeafes being produced by different kinds of contagion; and this may alfo be faid of the few folitary cafes that may be met with of chancre being fuppofed to terminate in gonorrhœa, and gonorrhœa in chancre, and other fymptoms of pox. We can more eafily perceive that the fame perfon fhould, in fome inftances, receive, and therefore be able to communicate both kinds of contagion, than that the incident we are confidering fhould be fo feldom met with, were the

the opinion well founded of the two diseases being originally of the same nature.

However ill founded an established opinion may be, if it has received the sanction of being generally adopted, we know how difficult it is to overturn it. There are few who enter so minutely into the consideration of such points as to be able to decide upon them, and of those who do, there are very few who will take the trouble of engaging in such discussions as are necessary for the conviction of others. This may be considered as the chief cause of the point in question remaining so long in obscurity, as well as of the explanation hitherto usually given of various circumstances in gonorrhœa and lues venerea having been uniformly made to support it. It will also serve to account for circumstances being held forth as matter of fact, which, on enquiry, are perceived to be ill-founded; for, when once an opinion is admitted, we are apt to give such an explanation of whatever may seem to relate to it, as can in any way tend to support it

Thus, although few in the present age will assert that gonorrhœa often terminates in lues venerea, yet by many we are told, that it is very apt to do so when it is improperly treated. Whatever puts a sudden stop to a severe or copious discharge from the urethra, is by many supposed to do harm. Hence all who condemn the use of

injections

injections in gonorrhœa affirm, that they often convert a ſimple clap into a pox, by throwing into the blood what otherwiſe would have been carried off. This, however, is by no means ſupported by experience. A very ſtimulating injection will no doubt excite pain and inflammation in the urethra; and this, in ſome inſtances, will be productive of ſwelled teſtes, and perhaps of ſympathetic ſwellings in the glands of the groin, but I have not known a ſingle inſtance of pox induced in this manner; and as I have long been in the daily uſe of injections, many caſes of it muſt have occurred, if the idea I have juſt ſtated were well founded. Till of late, indeed, a patient who was ſo unfortunate as to have a clap ſuddenly ſtopped, was ſo certainly conſidered as poxed that he was immediately put under a very complete courſe of mercury, by which he was made to undergo a very unneceſſary and diſtreſsful confinement.

Although this practice, however, is now very commonly exploded, yet there are ſome who ſtill adhere to it. I was called, in April 1784, to viſit a gentleman, who in a gonorrhœa, attended with a good deal of inflammation, had been ſo fooliſh as to live freely, and to ride much on horſeback. This, with the unguarded uſe of a very ſtimulating injection, put a ſudden ſtop to the diſcharge, and at the ſame time it excited a very conſiderable degree of pain and inflammation

along all the poſterior part of the urethra, towards the proſtate gland and neck of the bladder, attended with a painful and frequent deſire to make water.

On the idea of theſe being ſymptoms of pox, he was immediately put under a courſe of mercury; and when I firſt ſaw him, he had been uſing it for the ſpace of ſix weeks. The ſurgeon in attendance acknowledged, adds Mr. Bell, that no advantage had been derived from it; and the patient himſelf ſaid, that his diſtreſs was daily increaſing; they were both, therefore, eaſily perſuaded to lay the mercury aſide, and by the repeated application of leeches to the perineum, of fomentations, and opiates, to allay the pain, the inflammation ſoon began to ſubſide, and in a ſhort time he was perfectly well.

In December 1788, a young man called upon me, with a painful hard ſwelling in his groin, of an oblong form, nearly an inch in diameter, and reaching from the ring in the external oblique muſcle down to the top of the teſtis. It appeared ſuddenly about four months before, and ſeemed to be the conſequence of a clap being too haſtily ſtopped. He was at firſt attacked with ſevere pain at the neck of the bladder, which ſtretched to the groin, and down to the teſtis of the ſame ſide. This, together with a conſtant and painful inclination to void urine, rendered his life miſerable. Nor was his diſtreſs in any degree abated

abated by a courſe of mercury which he was immediately put under. On the contrary, the ſwelling which at firſt was not thicker than a common quill, was now very conſiderable. My idea of the ſwelling was, that at firſt it had been merely an inflammatory affection of the vas deferens, which by degrees had ſpread to the reſt of the ſpermatic cord; but, what was unuſual, it had never affected either the teſtis or epididemis. As a conſiderable quantity of mercury had been taken, and as, inſtead of proving uſeful, it had rather appeared to do harm, the ſurgeon whom he employed was eaſily perſuaded to truſt the cure to other remedies. Local blood-letting with leeches was frequently repeated, both in the perineum and groin. The parts were regularly fomented with a ſolution of ſaccharum saturni. His bowels were kept eaſy with gentle laxatives, and he was put upon a mild diet of milk and vegetables. In a few days the pain abated, and the tumour gradually leſſened, till at laſt, in the courſe of five or ſix weeks, it was entirely gone.

In the courſe of laſt winter, I attended two different patients, with alarming ſymptoms about the neck of the bladder, evidently induced by the improper management of gonorrhœa. The parts in both were not merely pained, but conſiderably ſwelled; and, at the ſame time, almoſt a total ſuppreſſion of urine took place. Although

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in both the difcharge from the urethra had been fuddenly ftopped, I did not advife mercury. The patients being both plethoric, were plentifully blooded, firft at the arm, and afterwards repeatedly with leeches in the perineum. This, with fomentations, and opiates to allay the violence of the pain, affifted by a cooling regimen and gentle laxatives, very foon completed the cures.

These inftances are given out of a great number that might be adduced, merely to fhew that the fymptoms which fupervene on the fudden ftoppage of a clap are local, and not connected with any affection of the conftitution, which they neceffarily would be if they were of the fame nature with lues venerea.

It will perhaps be faid, that although this may have happened in a few cafes, yet that in others there has been caufe to fufpect that lues venerea has been the confequence of a clap difappearing in this manner. In anfwer to this, it is fufficient for me to fhew, that this is at leaft a rare occurrence, as I think I am entitled to do, from my never having met with an inftance of it. It has been fuppofed, that the fudden check given to the difcharge in cafes of clap, muft neceffarily throw the matter into the blood, and that pox muft accordingly enfue from it. Were the matter of the two difeafes the fame, this would happen in every inftance, fo that when we can fhow that it feldom happens even in appearance, we

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are entitled, from this argument alone, to conclude that they are produced by two different kinds of contagion; and, where pox has appeared at the fudden termination of gonorrhœa, that the two kinds of infection had either been communicated together, or, what may more frequently perhaps be the cafe, the patient will be found to have received the pocky contagion by communication with a difeafed woman at the very time he laboured under gonorrhœa. I have already remarked, that lues venerea is fometimes produced by abforption, while the fkin remains entire, and where no chancre or excoriation is perceptible; there is therefore much caufe to imagine, that in long continued cafes of gonorrhœa many may be infected with lues venerea by communication with others labouring under it; and as this may happen without any external mark of it taking place, it is not furprizing that fome fallacy fhould arife from this circumftance.

The abettors of the opinion, that the matter of the two difeafes are the fame, admit that gonorrhœa very feldom terminates in pox *. And they attempt to account for this, that is, for the two

* This is even granted by one who keenly fupports the oppofite doctrine in every other point. In fpeaking of gonorrhœa and chancre not terminating fo frequently as might be expected in the production of each other, he fays, " Although it does not often happen, yet it fometimes does, *at leaft there is great reafon to believe fo*. I have feen cafes where a gonorrhœa came

two diſeaſes not being produced more frequently by the application of the ſame matter, by ſaying, that this depends upon the difference of parts to which the matter is applied.

They divide the different ſurfaces of the body chiefly into two kinds, what they term *ſecreting ſurfaces* and *non-ſecreting ſurfaces*. By the firſt they mean all the paſſages for extraneous matter, including alſo the ducts of glands, ſuch as the mouth, noſe, eyes, arms, and urethra, and by *non-ſecreting* ſurfaces, the external ſkin in general. To which they add a third kind of ſurface, leading from the one to the other, as the glans penis, prolabium of the mouth, the inſide of the lips, and the female pudendum; which ſurfaces, partaking of the properties of each of the others, but in a leſs

came on, and in a few days after in ſome, in others as many weeks, a chancre has appeared; and I have alſo ſeen caſes where a chancre has come firſt, and in the courſe of its cure a running and pain in making water have ſucceeded." V. Treatiſe on the Venereal Diſeaſe, by John Hunter, page 16.

This is what every practitioner has ſeen; but by admitting ſo clearly that it is a very rare occurrence, Mr. Hunter tends rather to ſtrengthen the contrary opinion; for, were the two diſeaſes produced by the ſame kind of matter, the one would clearly and neceſſarily *often* terminate in the other. In the few caſes which Mr. Hunter, in the courſe of extenſive practice, has met with, there is more cauſe to imagine either that the two diſeaſes were communicated at once, or that the one was given while the patient laboured under the other, than that nature ſhould deviate ſo much from her ordinary courſe as to produce them in a few inſtances ſo very differently from what obviouſly happens in the courſe of general obſervation.

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degree, are capable of being affected both ways, ſometimes by being excited to ſecretion, and at other times to ulceration *.

Upon this their theory or opinion of the point in queſtion, is attempted to be eſtabliſhed: when the contagion, either of gonorrhœa or pox, and which they conſider to be the ſame, is applied to any part of the external ſkin, particularly to the glans, where the ſkin is very thin, chancre, or ulceration, they obſerve, will moſt readily enſue, as theſe are *not ſecreting ſurfaces*; while the ſame kind of matter applied to the urethra muſt neceſſarily excite gonorrhœa, from this being a ſecreting ſurface, and therefore not ſo eaſily affected with ulceration as with irritation, by which an increaſed diſcharge, attended with ſome change in the mucus of the part, muſt accordingly be produced.

This idea, however, is more ingenious than ſolid. It might anſwer the purpoſe of giving a ſpecious appearance to an ill-founded opinion, but it will not ſtand the teſt of enquiry.

In the firſt place, on the ſuppoſition of the matter of gonorrhœa and lues venerea being the ſame, the latter ought to be a much more frequent occurrence than the former, from the greater eaſe with which the matter of infection muſt, in every inſtance, be applied to thoſe parts

* Vide John Hunter on the Venereal Diſeaſe.

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on which it can produce chancres than to the urethra, where, inftead of chancre or ulceration, it almoft always excites gonorrhœa. It is difficult to conceive how the matter by which the difeafe is communicated fhould find accefs to the urethra; while, on the contrary, all the external parts, particularly the glans, muft be eafily and univerfally expofed to it; and yet gonorrhœa is a much more frequent difeafe than pox. Cafes of gonorrhœa are in proportion to thofe of chancre and pox, fo far as my obfervation goes, of about three to one; while it is obvious, that the very reverfe fhould happen if the two difeafes were produced by the fame kind of matter *.

Again, were this the cafe, fhould we not find gonorrhœa in almoft every inftance terminating in pox, and chancre in gonorrhœa; for every one knows, that in gonorrhœa the matter is at all times paffing from the urethra over the glans and prepuce; and in chancre, that it is paffing from the glans into the entrance of the urethra. It happens indeed, in a few inftances (Mr. Hunter, we fee, has met with fome cafes of it) that

* Mr. Hunter fuppofes, that the proportion the cafes of gonorrhœa bear to thofe of chancre, is as four or five to one. Vide Treatife on the Venereal Difeafe, p. 217. This is furely a weighty argument againft the opinion he endeavours to fupport, of gonorrhœa and chancre proceeding from the fame contagion.

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the one difeafe fupervenes upon the other: but we have alfo feen that thefe are rare occurrences, and where they have not been communicated by fubfequent connection with an infected perfon, that the two difeafes have probably been given at one and the fame time. It is no argument againft this fuggeftion to fay, that inftances have been met with of a gonorrhœa appearing during the continuance of chancres of feveral weeks duration, and *vice verfa*; for every practitioner muft have met with inftances of thefe difeafes both appearing at the diftance of two or three months from any expofure to infection.

I have at this moment a gentleman under cure, for a deep foul chancre, altogether within the urethra. It was of feveral weeks duration before I faw it, and yet no gonorrhœa took place. He is now getting well by a complete courfe of mercury.

I have met with various cafes of this, as every practitioner muft have done; and, fo lately as the month of April laft, I was called to a gentleman with a painful chancre on each fide of the urethra. The fore extended about the eighth part of an inch up the paffage; and the parts being much inflamed, I hefitated to apply cauftic. This rendered the cure tedious, but ftill no gonorrhœa took place. At laft, after having taken a confiderable quantity of mercury, and when the chan-

cres were looking clean, and in a healing ſtate, he was ſeized with all the ſymptoms of a ſevere clap, with heat in making water, and a plentiful diſcharge of a thin green matter. This, however, bore all the appearance of a recent infection. I at once ſaid ſo to my patient, and he candidly acknowledged that he had imprudently expoſed himſelf, by having connection with a girl of the town three or four days previous to the acceſſion of theſe ſymptoms.

We may alſo remark, that the diſcharge from gonorrhœa frequently becomes ſo acrid as to excoriate the glands and preputium, and even to excite a very plentiful formation of matter, but every one knows that this is materially different from chancre. It is altogether different in appearance, and ſo materially different in its effects, that ſcarcely any practitioner of experience will truſt the cure of chancre to any thing but mercury, while in the other, mercury, I imagine, is very ſeldom employed. However extenſive the excoriations may be, they are eaſily removed by local remedies, and I have never known an inſtance of pox ſucceeding to this kind of treatment. Nay, I have met with various inſtances of ſuch affections, where mercury had been given in conſiderable quantities with no advantage whatever, and where a cure was effected by the uſe of an aſtringent injection.

About

About eighteen months ago a gentleman came to town from a confiderable diftance, with an extenfive excoriation, attended with a difcharge of a large quantity of thin offenfive matter. The quantity of matter indeed was fo confiderable, that at firft fight it appeared to be the difcharge from a very inveterate recent cafe of gonorrhœa; but on farther examination, it was found to proceed entirely from the prepuce, the clap by which it was produced being entirely gone.

He had taken mercury for the fpace of fix weeks, and the parts had been regularly bathed in milk and water, but with no advantage. The difcharge continued as plentiful as ever, and the preputium was beginning to acquire fome degree of thicknefs, and to be difficult to retract. In the fpace of a week he was completely cured, merely by bathing the parts from time to time with brandy and water, and applying, during the night, a poultice ftrongly impregnated with faccharum faturni.

This, as well as a variety of fimilar affections, which, were it neceffary, I might enumerate, clearly evince not only that the matter of gonorrhœa, when confined to the urethra, does not terminate in pox, but that it proves equally inoffenfive to the conftitution, where it is even fo fharp and acrid as to excoriate the furrounding parts.. This points out a very marked difference between the matter of the two difeafes. In pox,

even the flighteft fore never fails to throw matter into the fyftem, while the moft extenfive affections proceeding from gonorrhœa are fo feldom found to injure the conftitution, that I have never met with an inftance of it.

By thofe who wifh to fupport the oppofite doctrine, it is faid, that the matter of gonorrhœa would more frequently terminate in pox, were it not for the mucus of the urethra with which it is blended, and by which they fuppofe it to be rendered not only milder in its nature, but not fo apt to be taken up by the abforbents. This, however, is merely ideal, and no proof can be advanced in fupport of it. Befides, the force or the argument is entirely done away, when we fee, from what has been obferved before, that even where the matter of gonorrhœa is more acrimonious than almoft ever occurs in cafes of chancre, fo as in fome inftances to produce very extenfive excoriations, that ftill no affection of the conftitution enfues from it.

Nay, we fee even in fuch difeafes as are found to proceed from what is termed a tranflation of the matter of gonorrhœa to other parts of the body, and which we fuppofe to happen through the fympathy of parts, as fwelling of the teftes, that ftill no affection of the conftitution proceeds from them. I have feen fome inftances of ophthalmia proceeding from gonorrhœa, and in which a con-

ſiderable diſcharge took place of a puriform matter from the eye-lids, very ſimilar to the matter of a recent clap. I have alſo met with inſtances of patients labouring under gonorrhœa being ſeized with a ſimilar diſcharge from the membrane of the noſe, but in none of theſe have I ever known lues venerea enſue. A conſiderable number of examples might be adduced of each of theſe, but the three following will be ſufficient.

In the year 1786, a young man applied to me with a very troubleſome painful diſeaſe in both eyes. The eye-balls were not much inflamed outwardly; but as he experienced an intenſe degree of pain from the admiſſion of light, I concluded that the retina, or other deep-ſeated parts of the eye, were in a ſtate of inflammation; and the membrane of the eye-lids was not only inflamed, but a conſtant and copious diſcharge took place from them of a greeniſh yellow matter, bearing much the appearance of the matter of a recent clap.

The account I received of his diſeaſe was this: That he had for eight or ten days laboured under gonorrhœa, the ſymptoms of which, however, were not more ſevere than uſual; when, after being heated with drinking port wine, the diſcharge from the urethra, which had previouſly been copious, diſappeared almoſt entirely. His eyes, almoſt immediately thereafter became pain-

ful, and in lefs than twenty-four hours the dif-charge of matter had taken place from the eye-lids.

The difeafe was at firft treated with blifters, flight evacuations of blood, and the ufual applications of ointments and collyria. Thefe not proving fuccefsful, a courfe of mercury was prefcribed; but although different attempts were made with it, mifchief always enfued from it. It did not leffen the difcharge, while it obvioufly increafed the inflammation, and rendered the eyes more irritable. I therefore advifed this remedy to be laid afide. A quantity of blood was taken from the temporal artery of one fide; fuch veffels as were turged upon the eye-balls were divided; fcarifications were made in the inflamed parts of the eye-lids; poultices were applied over the eyes, in which opium and faccharum faturni were diffolved; and gentle laxatives were pre-fcribed. By thefe means the pain foon abated, the inflammation and difcharge of matter leffened, and in the courfe of a fortnight no fymptom of the difeafe remained but a degree of irritability on expofure to much light, with which both eyes continued to be diftreffed for five or fix months afterwards.

In the courfe of the following year, on being attacked with gonorrhœa, but of a more violent nature than the former, he was again feized, after expofure to much cold, and riding on horfe-

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back, to a ſimilar affection of his eyes. In this inſtance too, blood-letting, and the other remedies formerly preſcribed, proved ſuccefsful, and he has not ſince that period had any return of the diſeaſe.

About two years ago I was deſired to viſit a patient, who, during confinement from a ſwelled teſtis induced by a gonorrhœa, was ſuddenly ſeized with a profuſe diſcharge of matter from one of his noſtrils, very ſimilar to the running of a clap. The membrane of the noſtril appeared tender, and ſomewhat inflamed, but little or no pain occurred from it. The diſcharge from the urethra had diminiſhed conſiderably previous to the teſtis becoming inflamed, and on this taking place from the noſe, it diſappeared entirely. This ſuggeſted the propriety of attempting to excite a return of the diſcharge by the urethra; but no advantage being derived from this, I adviſed the affection of the noſe to be treated with injections ſimilar to what we uſe in caſes of clap. An aſtringent ſolution was thrown up, ſometimes with a ſyringe, and at other times by inſerting a bit of ſponge immerſed in it up the noſtril, and in the courſe of a few days the running ceaſed entirely.

Since that period, the ſame patient has been twice affected in a ſimilar manner, and the ſame kind of treatment proved equally ſuccefsful. No

mercury

mercury was given, and no ſymptom of pox ever appeared.

In the courſe of a few weeks after the recovery of this patient from the firſt attack of the diſeaſe, I was deſired to ſee a friend of his, who for ſeveral years had been diſtreſſed with a ſimilar diſcharge from both his noſtrils. The running had occurred during the continuance of a clap; and although it had frequently diminiſhed in quantity, yet at all times it was ſo conſiderable as to be productive of much uneaſineſs. No ulceration appeared on the membrane of the noſtrils, but it was of a deep red colour, and tender over its whole extent. A variety of remedies had been employed; and at laſt, after the diſeaſe had gone on for upwards of three years, although no other ſymptom appeared, he was adviſed to undergo a courſe of mercury. This was done in the moſt attentive manner, but no advantage enſued from it.

In this ſituation, I expected that the ſame plan of treatment which proved ſucceſsful in the preceding caſe, and which had alſo done ſo in others, would likewiſe anſwer here. In this, however, I was diſappointed; for, although every variety of injection was uſed that I ever employed, yet no material advantage enſued from them. The running was ſometimes indeed leſſened by them, but it always returned equally ſevere as before; and although it has of late, even when no remedies

dies were employed, become confiderably lefs, it ftill continues in fuch quantities as to prove highly diftrefsful. No other fymptom of the difeafe, however, has ever occurred.

As a farther proof of the difference of the contagions of fyphilis and gonorrhœa, it may be remarked, that no ftage of pox has ever been known to induce gonorrhœa, which furely would occafionally happen if the two difeafes were of the fame nature. We may alfo remark, that in numberlefs inftances people have been poxed by the matter of fyphilis being by accident applied to a cut or a fcratch, as often happens with furgeons in the dreffing of chancres and buboes, but no one ever heard of a pox being got in this manner from the matter of gonorrhœa. It has indeed been faid, that chancres may be produced by infinuating the matter of gonorrhœa beneath the fkin. But experiments upon this fubject are productive of fuch anxiety and diftrefs, that they never have been, nor ever probably will be repeated fo frequently as the nature of it would require. Nothing, therefore, can be admitted from this argument; for in order to avoid fallacy, and to give fupport to the opinion, thefe experiments would not only require to be conducted with accuracy, but to be numerous, and to be repeated on a variety of patients under every poffible variety of circumftances; whereas we have heard of only a fingle experiment or two being

made

made by any individual, and even theſe ſeem to have been made under the management of ſuch as were ſtrongly and obviouſly biaſſed in favour of one ſide of the queſtion.

In oppoſition to theſe too, I may mention, that induced by ſome late publications upon this ſubject, two young gentlemen of this place have made ſome experiments upon themſelves, with a view to aſcertain the point in diſpute, but the reſult was materially different from what appears to have happened in the experiments to which I allude. By the introduction of the matter of chancres, as well as of buboes, into the urethra, ſome pain and irritation were excited, but no gonorrhœa enſued; and, by fretting the ſkin of the prepuce and glans with a lancet, and rubbing the parts with the matter of gonorrhœa, ſlight ſores were produced, but they never aſſumed the appearance of chancres, and they healed eaſily without the uſe of mercury. For the reaſons mentioned above, however, we cannot place much dependence upon theſe or any other experiments that have yet been made upon this ſubject; we muſt truſt therefore to experience and obſervation in the ordinary courſe of practice for means to aſcertain it.

The other fact on which the doctrine we attempt to eſtabliſh reſts, is, that gonorrhœa and ſyphilis have appeared at different times in the ſame countries, and in ſome inſtances have remained

mained diſtinct and uncombined for a great length of time.

If theſe two diſeaſes were of the ſame nature, and proceeded from the ſame contagion, they ought to have appeared nearly at the ſame time in every country to which the infection was carried. This does not appear, however, from the hiſtory of the diſeaſe, to have been the caſe. From the earlier writers upon this ſubject it is evident that the lues venerea was known in Europe at leaſt forty years before the gonorrhœa virulenta. Dr. Aſtruc, whoſe accuracy and minute attention to this ſubject has not been equalled by any one, aſſerts, that in his time gonorrhœa had not been long known in China, although we know that the lues venerea had long prevailed in that country; and it would appear, notwithſtanding of any thing that has been ſaid to the contrary, that the lues venerea was imported to the Iſland of Othaheite a conſiderable time before gonorrhœa. It ſeems to have been carried to that and other iſlands in the South Seas by the very firſt European navigators who touched there, and to have remained diſtinct, without being connected with gonorrhœa, for a very conſiderable time; for when Captain Cook viſited theſe iſlands in his ſecond voyage, we have authority for ſaying that gonorrhœa had not then appeared in them.

Theſe hiſtorical facts all tend to prove, that where only one of theſe diſeaſes has been im-

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ported to any particular diſtrict, it has always remained diſtinct, without producing the other, and which we cannot ſuppoſe would have happened, if both were formed by the ſame contagion. And, in addition to theſe, I may add another not leſs remarkable, the truth of which may be aſcertained by all who incline to enquire concerning it, as the ſcene of it lies in our own country.

In various parts of the country of Scotland, particularly in ſome parts of the Highlands, in Galloway, and in Dumfries-ſhire, the common people have, for a great length of time, been afflicted with the lues venerea, under the denomination, as they term it, of *Sibbens*, and which, from thoſe diſtreſſed with it having no communication with thoſe infected with gonorrhœa, has ſtill retained its original unmixed form, without a ſingle inſtance, ſo far as I know, of gonorrhœa having been ever produced by it *. There is evidence in ſome of theſe diſtricts of this diſeaſe having prevailed among them for upwards of ſeventy

* This muſt have happened from the diſeaſe in theſe diſtricts prevailing almoſt entirely among poor county people, whoſe manners do not expoſe them to the hazard of being infected with gonorrhœa. None, however, can eſcape the ſibbens who are much in company with thoſe labouring under it; and ſo much are they convinced of its being the ſame diſeaſe with lues venerea, that even thoſe who get it in the moſt innocent manner, are ſo aſhamed of it, that they never ſpeak of it as long as it can poſſibly be kept ſecret.

years. Nay, in ſome of them, it is ſaid, from tradition, to have been left there by the ſoldiers of Oliver Cromwell, and to have been given, ſince that period, by one generation to another; and although I have had opportunities of ſeeing many hundred people labouring under it, with ulcers in the throat, nodes of the bones, fungous excreſcences about the anus, blotches over the body, with almoſt every other ſymptom of ſyphilis, yet not an inſtance has occurred to me, as I have obſerved above, nor have I heard of any, where gonorrhœa took place in it. Whether it is from thoſe infected with it concealing it longer than uſually happens in towns, or what may be the cauſe of it, I ſhall not at preſent pretend to determine; but certain it is, that the ſymptoms produced by it are more inveterate than we uſually find them to be in the ordinary form of this diſeaſe. They appear to be more particularly infectious, the ſlighteſt communication with thoſe labouring under the diſeaſe being apt to produce it. The ſymptoms ſpread more rapidly, and a greater quantity of mercury is, for the moſt part, required to remove them, but ſtill gonorrhœa is never produced in any ſtage of the diſeaſe.

A diſeaſe very ſimilar to this broke out among the country people of Canada ſome years ago, owing, as is imagined, to communication with ſome of the ſoldiers quartered among them, who were infected with lues venerea. It is attended,

as is the caſe with the ſibbens in Scotland, with all the ſymptoms of ſyphilis in the moſt virulent form of that diſeaſe; and it is ſo very infectious as to be communicated by eating or drinking out of the ſame veſſel, or drying with the ſame cloth that has been uſed by thoſe labouring under it. It often enters the conſtitution by abſorption from the ſurface, without any previous ulceration, in which caſe it afterwards breaks out in buboes, nodes, ulcers, and other ſymptoms of a confirmed lues; but not an inſtance, I am informed, has happened of gonorrhœa being produced by it.

This, as well as what has occurred in the progreſs of Sibbens, is preciſely what happened with the lues venerea when it firſt appeared in Europe, as well as at a late period in the South Seas; and there cannot be a doubt of the ſame circumſtances taking place wherever the ſyphilis only is communicated. We have ſeen, in all theſe inſtances, that gonorrhœa has never been produced by it, which ſurely could not have happened if the two diſeaſes were of the ſame nature, and produced by the ſame contagion. They could never, in that caſe, have remained for any length of time ſo diſtinct and preciſely marked, for the one muſt neceſſarily in almoſt every inſtance, have ſoon been productive of the other.

As a farther ſupport of this opinion, I may add, that if the two diſeaſes were of the ſame

nature,

nature, and produced by the ſame infection, the remedies proving uſeful in the one might be expected to prove likewiſe ſo in the other. Inſtead of this, we find that thoſe upon which we depend with moſt certainty in gonorrhœa, have no effect whatever in the cure of ſyphilis; while mercury, which is the only remedy, as we have obſerved above, upon which any dependence can be placed for the cure of ſyphilis, does not in gonorrhœa produce any advantage. Nay, that in ſome caſes it evidently does harm.

We alſo know, that gonorrhœa will often terminate whether any remedy be employed or not, merely by moderate living, and keeping the parts regularly clean. The diſeaſe by this alone will, in moſt inſtances, become gradually milder, till at laſt it will diſappear entirely. No ſuch thing, however, happens in lues venerea. In this, as we have already remarked, even the mildeſt ſymptom becomes daily worſe, unleſs mercury be employed, nor will any practitioner of experience truſt the cure even of the ſlighteſt chancre to any other remedy.

Upon this evidence alone, of the method of cure of the two diſeaſes being ſo eſſentially different, we might, I think, conclude that they are different in their nature, and that they proceed from different contagions. Were they of the ſame nature, and proceeding from the ſame cauſe, it is not poſſible to conceive that any medicine would

would act as a certain cure for the one and do harm in the other, and yet every practitioner will admit that mercury is the only remedy hitherto known, upon which we can depend for the cure of lues venerea, while it evidently often does harm, as I have already obferved, in gonorrhœa.

If the fubject now under difcuffion was merely of a fpeculative nature, I fhould not have entered fo minutely into it, for in that cafe it would have been a matter of indifference both to practitioners and patients whether thefe difeafes were of the fame nature or not; but as the treatment of gonorrhœa ought to depend much upon this circumftance, I judged it proper, before proceeding to treat of it, to make this attempt to have the point in queftion afcertained, as much as the prefent ftate of knowledge will allow.

PRACTICAL OBSERVATIONS.

SECT. XXXI.

OF THE CURE OF GONORRHŒA.

Till of late, this diſorder was confounded with the Lues Venerea, and treated in the ſame manner with mercury; and how many have not been the martyrs to this error in practice, which, I am ſorry to ſay, truth has as yet hardly bluſhed out of daily practice!

Whenever a ſmarting heat or burning accompanies making water, with a purulent diſcharge ſtaining the linen, appearing a few days after connection, we ſhould immediately ſuppoſe that the reckoning is come, and endeavour to ward off the impending evil.

I will venture to affirm, from a large experience, that if the following injection be early employed, the diſeaſe will ſpeedily diſappear.

R. Hydr. muriat. gr. $1\frac{1}{2}$.
Aq. font. unc. 8.
Ft. injectio ter die utend.

That

That is,

Take of muriated mercury, a grain and a half.

Water, eight ounces.

This injection is to be ufed three times a day. This was the famous injection of John Hunter.

Or the following,

Zinci vitriolat. gr. 15.

Aq. font. unc. 8.

That is, take of

Vitriolated zinc. fifteen grains.

Common water, eight ounces.

For an injection.

During the employment of either of thefe injections, the body fhould be kept extremely temperate, little exercife ufed, and in plethoric habits fome of the natural ftimuli abftracted, as bleeding, or purging with cooling falts. A quantity of mucilagenous drinks fhould alfo be taken, in order to wafh away the matter as much as poffible, and lubricate the paffages, and obtund the falts of the urine.

This diforder is merely *local*, and if not fpeedily attended to is apt to remain for months, nay, years, ftill continuing infectious, and afterwards to terminate in a troublefome gleet, from a habit of morbid fecretion fet up in this part.

This is to be treated with bark, and an aftringent injection, as the one above.

PRACTICAL OBSERVATIONS.

SECT. XXXII.

OF THE CURE OF THE LUES VENEREA.

This diforder is at firft local, like the inoculated fmall pox, and begins with a fore of a peculiar form, having a hollow crater or excavation with a prominent rifing furrounding it, or as writers ftyle it, a chancre is a fore, with a thick red and hardened bafis.

Now is the time to take alarm, and immediately think of getting rid of the horrid poifon. It fhould be as much dreaded as arfenic in the ftomach. You ftand upon a brink, and it is your own fault if you fall into the precipice. Mercury is at hand, and it will fave you.

The method of applying it, is by means of pills, or in the form of ointment.

The formulæ are:

R. Calomel, fcr. 1.
Conferv. rof. q. f.
F. pil. 20. Cap. pil. 1. Primo mane et horâ fomni fing. diebus.

That is, take of

Calomel, one ſcruple,

Conſerve of roſes, as much as is ſufficient to make 20 pills.

Take one in the morning, and a ſecond at bed-time.

R. Unguent Hydr. fort. unc. 2.

Inungr. dr. 2, horâ ſomni. ſing. noct.

That is, take of

Strong mercurial ointment, two ounces.

Rub in two drachms along the thighs every night, until the mouth becomes ſore.

The latter mode is moſt adviſeable.

Some perſons ſtrongly recommend the following ſolution:

Hydr. muriat. gr. 2.

Aq. fort. unc. 8.

Cap. coch. larg. 1. horâ 6tâ veſpere & horâ ſomni ex cyath. decoct. hordei.

That is, take of

Muriated mercury, two grains.

Common water, eight ounces.

Take a table-ſpoonful at ſix in the evening, and at bed-time, in a cup of barley-water or gruel.

An opiate may be taken at night.

Medicines are daily advertiſed as containing not a jot of mercury for the cure of this diſeaſe, and the evils produced by mercury are aggravated by reporting its effects, if ſuch happen, upon certain

con-

conftitutions, as general*. Not only quacks of this defcription, now undertake to cure this difeafe; but every idle fellow who does not chufe to follow fome ufeful employment, fets up for doctor, affumes fome fictitious name, and advertifes an infallible fpecific for the venereal difeafe. Some have even the effrontery to advertife an infallible preventative. The apothecary's man, or even the apothecary's man's man, often paffes for an adept in curing this malady. Nor is it uncommon for the fellow who brufhed the furgeon's coat, or cleaned his fhop, to ftep into his mafter's fhoes, and fometimes into his chariot, by his pretended fkill in curing the lues venerea.

The credulity of the fenfible part of mankind in regard to medicine, is truly aftonifhing. Even thofe who affect to be fceptical in other matters, are the eafy dupes of every pretender to a fecret medicine: they will neglect the advice of the moft fkilful phyfician, and run after the ignorant quack, becaufe he promifes them a cure, and without mercury; but alas! this cure, nine times out of ten, turns out to be no cure at all, and the difeafe is, by this means, trifled with, till it becomes nearly incurable.

The moft frequent dupes to quackery, however, are the young and thoughtlefs. They credit the contents of every puff that is put into their hands as

* See *Mercury Stark-Naked*, a recommendatory pamphlet for De Velno's vegetable fyrup, a medicine which, as Dr. Buchan affirms, never cured a fingle venereal cafe.

they walk the ſtreets, and ſwallow with eagerneſs the drugs it recommends. I would beg leave juſt to hint to ſuch inexperienced youths, that the advertiſing quack is ten to one more ignorant of medicine than themſelves; that his ſole aim is to take their money, and when he has got that, he cares no more for the patient. I am warranted to ſay this from daily obſervation, and am ſorry to add, that too many, from woeful experience, know it to be true. So great, however, is the influence of quackery over the young mind, that I have ſeen one of thoſe unfledged gentlemen, while I was writing a preſcription for him, take up a newſpaper, and caſting his eye on an advertiſement, which promiſed to do in a few days what I had told him would require weeks, if not months, to complete, put my preſcription in his pocket, and haſte away to the performers of quick and eaſy cures.

From the prejudice raiſed againſt mercury, by the hue and cry of theſe *legal murderers*, the diſgrace and peſt of civilized ſociety*, it is now become a difficult matter to perſuade patients to continue mercury a ſufficient length of time. The wiſh to be ſoon well is natural, but it is productive of much miſchief. The victims to quick cures are innumerable: yet men will run after thoſe who make ſuch promiſes, though to their own deſtruction.

* Is there no Member of the Houſe who has courage to ſtem this torrent?

Few days pafs in which I do not fee inftances of the danger arifing from imperfect cures of the lues venerea; and I have reafon to believe, that thofe which are not feen, nor regarded, are ftill more numerous.

Nor is the difficulty much lefs in getting men to take mercury in fufficient dofes. Mercury may be taken for any length of time, but if it is not adminiftered in fuch quantities as to produce fufficient effects on the fyftem, it will not fubdue the poifon. This, however, is not an eafy matter to eftimate. The difference of conftitutions is fuch, that two perfons can hardly be treated exactly in the fame way, and our conduct muft be regulated chiefly by its effects on the fyftem. Every fymptom of this dreadful difeafe fhould be overcome at leaft a fortnight before mercury be difcontinued, and even here we muft admit of calculation rather than of certainty.

The great art in adminiftering mercury is to regulate the dofe in fuch a manner as to keep the fyftem fully faturated, without forcing it off by any of the outlets. This may generally be done by gradually increafing the dofe till the mouth is fore, and then keeping it fo by fmaller dofes. But it is difficult to perfuade patients to let mercury be employed with due energy. A fore mouth and fever is an evil too great to be endured! I am poifoned with mercury, they exclaim. But what is this to the devaftation of fo foul a dif-

eafe?

eafe? and what is this poifon in comparifon to the other? but not yet feeling it in all its horrible effects, they choofe often to defift before a fufficient trial has been made, and thus bring themfelves and mercury into difgrace. If a man could keep *a medium* he would be perfect; but this is not in his nature: he flies from one extreme to another, and is equally wrong in both. This has been ftrictly the cafe with regard to the exhibition of mercury. Many conftitutions were ruined by pufhing it too far; and now effects equally hurtful are produced, from its being too fparingly adminiftered. We are therefore to follow a *middle path*, and, if poffible, to avoid the bad confequences arifing from either of the extremes. I do not mean to recommend the old and juftly exploded practice of exhibiting mercury, fo as to raife a violent falivation. This was productive of many bad confequences, and is by no means neceffary. All the purpofes of mercury may be anfwered in a much milder way: I mean, by a gentle falivation; or a moderate degree of forenefs of the mouth being kept up for a confiderable length of time.

Another great evil is the want of precaution whilft employing mercury. The *quack* not only holds out the lures of expedition, fecrecy, and cheapnefs, but alfo that of employing a remedy that will not oblige a man to take any peculiar precautions,

or make any change in diet. With regard to expedition, there is no great difficulty in healing a chancre, and this is expeditiously done, for sake of the pay. The object is to touch the cash, and the poor deluded wretch is dismissed; and we are not surprized at the appearance afterwards of a sore-throat, obstinate ulcers, and carious bones. The wish of following the usual mode of free life is great, and the greatest risk is incurred, and the dead tell no tales. The true science of medicine, however, teaches that the natural stimuli must be at first moderated, whilst under the influence of mercury, and catching of cold most anxiously avoided, as the effects of mercury are lasting, and the abstraction of stimuli difficult under the operation of mercury, which wears down excitement, and requires supporting, although this is not to be done until towards the conclusion of the course, when tonic medicines, a generous diet, and the benefit of country-air, are absolutely necessary.

SECT.

SECT. XXXIII.

THE OPPOSITION WHICH THE EXPLODING OF SALIVATION MET WITH.

SYDENHAM feeing that gonorrhœa was cured with purgatives, and this being confounded with fyphilis, or the lues venerea, affirms that *jalap* alone has cured the venereal difeafe. Hence he argues, that mercury is no fpecific, and only cures by *evacuation*, juft as the lancet is not a fpecific for pleurify, although it be a cure for that difeafe. He recommends, therefore, mercury to be employed fo as to excite not lefs than a fpitting of two quarts a day. This practice has been very generally followed. When an attempt to explode falivation was made, it is pleafant to obferve the oppofition that was then made to it, and the manner that the controverfy was conducted.

Dr. Willoughby having publifhed a tranflation of Monf. Chicoyneau's New Method of curing the lues venerea, there foon appeared remarks upon this work, (which was entitled, *The Practice of Salivating fhewn to be of no Ufe or Efficacy in the Cure of the Venereal Difeafe, but greatly prejudicial thereto,)* with a letter from Mr. Palmer, furgeon, to the author of the aforefaid remarks, upon the fubject of the exploding of falivation,

by Daniel Turner, M. D. of the College of Phyſicians in London.

But as theſe two great heroes are out of date, it may be neceſſary to ſhew, that this Samuel Palmer was a man of ſome eminence. Dr. Turner's work, was entitled, (A Practical Diſſertation on the Venereal Diſeaſe: in which, after an account of its nature and origin, the diagnoſtic and prognoſtic ſigns, with the beſt ways of curing that diſtemper, together with many hiſtories relating to the ſame, are candidly, and without reſerve, communicated. In Two Parts. The Second Edition, reviſed, corrected, and improved, not only by many conſiderable obſervations interſperſed throughout the book, but the addition alſo of ſeveral rare caſes at the cloſe. To which REMARKS are added, dedicated to Mr. Palmer.) —The Dedication is as follows:

SIR,

The firſt edition of my Syphilis (appearing ſome few years ſince, under the name, by way of ſanction, of that worthy and fair practitioner, Mr. Richard Blundel, deceaſed) having met with the general good opinion of your fraternity, and the proprietors of that copy ſoliciting a ſecond, when I had made ſome farther additions, and encreaſed the number of hiſtories, I concluded to prefix your's. For as no man has met with better opportunities, ſo neither greater abilities to improve this

this branch of practice than yourſelf, and conſequently none can better judge of the performance.

A farther motive to this ſecond choice of patronage was this: that however eminent therein, you have pretended to no ſecret way of cure; being open and communicative, as every fair and honourable practitioner ſhould be.

We have, you know, Sir, an old Latin proverb, *Quod ars non habet inimicum, niſi ignorantem:* unto which I will take leave to adjoin another, *Nec ullus, niſi fraudulens, in profligandis morbis, ſecretum.*

I wiſh ſome gentlemen, too fond, I think, of theſe *new ways*, would conſider what company they are got into, and the umbrage they give to ſome of our *moſt ſcandalous empirics*, and indeed all other pretenders.

From hence you will eaſily obſerve, that although for the reputation of the patient, I would have his cure undertaken and performed with all imaginable ſecrecy; yet do I verily believe, he is leaſt likely to obtain it from one pretending to any ſecret therein. Would our College of Phyſicians raſe out of their catalogue all theſe *arcaniſts*, and your company ſet a mark upon the like members, both *phyſic* and *ſurgery* might be *better eſteemed*, and the *public ſecured from deſigning men* *.

* Tu dors, Brutus, may be juſtly ſaid of theſe bodies, except when they are quarrelling among themſelves. Vide *The Battle of the Wigs*, a poem, by the late Bonnel Thornton, of facetious memory, a new edition, publiſhed by Symonds.

In allufion to this; I will recite the following paffage:

A certain perfon, noted for a noftrum in this particular difeafe, fent for me not many years paft, to confult with him in a cafe, which, at that time, he thought would prove his death; and in one of my vifits, when he feemed in greateft danger, I put the queftion to him, whether or not, for the general benefit, he would not divulge a particular preparation? When he ingenuoufly anfwered me, it was not worth while; for that although it had been a good article to him in private practice, yet it was no other than the fame thing difguifed, which he named to me, that was in ufe with many others of the profeffion.

It happened that he recovered, and having given my word, that neither his name nor his remedy fhould be ever brought upon the ftage by me, I fhall religioufly obferve it; having got only this particular fatisfaction hereby, that whatever he may do in other company, I am fure, in mine, he will pretend to no *fingular* method of curing this diftemper.

But I need not acquaint you with the mean artifices practifed by fome among us, of which yourfelf fo often have been a witnefs. Wifhing, therefore (which is all indeed that I can do), that every gentleman, who is related to the profeffion of phyfic, would, for the honour of the fame, practife

practiſe in their ſeveral ſtations with that integrity and candour that becomes them, and *that civil uſage of each other*, which ſeems, I muſt needs ſay, *much wanting**, I ſhall only ſubjoin farther, that

I am, SIR,

Your friend and humble ſervant,

DANIEL TURNER.

Devonſhire-ſquare,
Without Biſhopſgate,
June 1ſt, 1724.

After the foregoing ſheets, ſays Dr. Turner, were ſent to the preſs, I received from my bookſeller a pamphlet with the title aboveſaid; in the dedicatory Addreſs whereof, I find, leſt we ſhould have drawn in all the hoſpital-ſurgeons by their heads and ſhoulders, the editor has endeavoured to ſecure one: in whoſe hands leaving the great diſcovery, backed with his repeated ſucceſsful practice to thrive and receive improvement, I ſhall proceed to his Advertiſement, which is to ſupply the place of a preface, and which I intend to inſert, with a paraphraſe on the ſame, in the manner following:

* This is curious. But as Chriſt juſtly obſerves, it is common for a man to ſee the mote in the eye of another, when he has a beam in his own.

The

The piece here offered him, is a little ſyſtem *(yet big enough in conſcience for its value)* of facts and experiments *(not to find out the longitude, but made on perſons who poſſibly had the pox, but more probably had not)* accurately obſerved, *(that is, after they had let the devil in by the port-holes of the ſkin, he did not preſently ſally out by the mouth)* and fairly ſtated. *(Yet not one word of the quantity of the remedy.)* There needs not any defence either of the matter or manner thereof, *(if you will take Dr.* W——'s *word for it)* both being what all phyſical treatiſes are, or ought to be. *(Well ſaid, however, but woe ſurely to the ſtate of phyſic, if all its tracts were managed after ſuch a manner, whatever matter they contained.)* The reader may here reſt ſecure; *(if nobody diſturbs him)* he is not to be amuſed with words, *(but with whole ſentences and paragraphs made up with ſomewhat like them)* or betrayed into a perſuaſion of any thing by a ſhew of reaſoning, *(unleſs perhaps in explicating the modus of mercury's operation, and the ſtench of the mouth or ſo, thereby occaſioned.)* We obtrude no hypotheſis on him, *(excepting that of the venereal poiſon's being poſſible to be carried off by a ſalivation.)* eſpouſe no party, *(but the inoculators;)* beg no principles, *(yet aſſume thoſe of railing againſt all who ſhall oppoſe us; particularly the C——e, and the company of S——s;)* propoſe no conjectures, *(only tell you in many of the caſes, the patient having formerly been infected with this diſeaſe, we thought, which*

is

is a little of kin to a conjecture, there might be ſome reliques thereof mixt with the other complaints, and accordingly made uſe of the frictions) but facts and experiments *(of little ſignificancy)* undoubtedly atteſted, and obſervations *(of much leſs)* invincibly *(here he begins to put on his armour)* warranted.

(Having now put on his buff, with head-piece, the front eſpecially of burniſhed braſs, he comes on.)

Though nature, reaſon, and experience are on our ſide, *(What ſay you to this, Mr.* S—l P——r, *Mr.* J——s D——y, *and all you,* H——l S——s?) yet I foreſee we ſhall not want oppoſers, *(how lamentably would the poor gentleman have been diſappointed, if nobody had taken notice of him?)* but on what principles, *(ſurely not anti-ſalivating ones)* and with what weapons *(hardly* FIGG's *the fencers)* it is no hard matter to divine. *(Once again, gentlemen, what ſay you, how do you intend to arm? for though this conjurer can, I profeſs I am unable to find out.)* We ſhall have prejudice ſtart up in a hundred ſhapes, *(come, Doctor, let us hope the beſt, it may be not above ninety-nine, and ſo we eſcape one)* and clamour with a thouſand tongues *(are there ſo many within the diſtrict of Billingsgate?)* Cuſtom will be trumped up as evidence, *(and where is the harm if it be found preferable to innovation, or backed with ſolid reaſon and ſtill greater experience?)* and a phyſical proceſs, like a title at law, pleaded for from patent and preſcription. *(I hope the Doctor is not kept out of his eſtate by a poſſeſſion of the right*

owner,

owner, time immemorial, that has turned his head from physic to the law.) The practice of the town will be urged again and again, *(that is, twice)* and Warwick-lane and the hospitals *(unless one of their members possibly be tickled into his interest)* hauled into the controversy by head and shoulders, *(this controversy must surely be a large one.)* We know who are the advocates of old women's notions, and who pay a religious regard to practices on account of their staleness, we know who are sworn to wage war *(good Sir, keep on your buff and frontpiece)* with every thing not taught them by tutors and nurses, *(who do you think? why still the same* C——e *and* H——l S——s.)

(Now, gentlemen, look to it—Hark! the trumpets.)

It is fresh in every body's memory, who were the opposers of inoculation——*(Hark! again, the drums.)* Doubtless, the same spirit *(or ghost)* that rose against a safe and gentle method *(witness, young L—d* S———d, *L—d* B———t's *man, Mr.* Ac———t's *daughter, &c.)* of treating the small-pox, will be inflamed *(for you know this is an inflammatory disease)* against a like method *(that is, an inoculating one)* of treating the other.

(Keep clear, gentlemen, of the other side, he is now going to make the onset.)

We shall have more Massey's and Sparham's *(alas! poor parson Massey, or is it apothecary Massey that is fallen by the first fire)* enter the lists, *(stand buff, however, dear Doctor)* and new Wagstaffe's

(for

(for the old one, whether killed or not by our artillery, is certainly dead) prickt forth *(for goodneſs' ſake!)* in burniſht ſteel, *(which yet is held by ſome for far better armour than that of braſs.)*

(The engagement being over, the dialect now differs.)

But it is to the few, *(coax him, Pug!)* the honeſt, *(that never broke lock, nor pickt a pocket)* the ingenious, *(who, like the famous Fawkes, can play twenty legerdemain-tricks with cards as well as cups and balls)* the diſcerning few *(that ſee plainly no man was ever one farthing the better for a ſalivation, unleſs ſome few where the ſame happened againſt our wills, or by mere chance)* that we make our application; *(but the miſchief is, we are not much regarded)* men of too extenſive thought *(reaching the ultra-mundane ſpace)* to be pinned down *(ſurely a good ten-penny nail would have made them faſter)* by prejudice: whoſe underſtandings ſit looſe *(or indifferent on which ſide the truth lies)* or unembarraſt with popular opinions, *(you ſee I am right, one that regards not either ſide of the queſtion, or what the people opine of the matter)* who have no intereſt inconſiſtent with thoſe of their patients, *(unleſs taking a guinea of a rich miſer for a fee, ſhould by the ſaid miſer be ſo accounted)* and only viſit the ſick *(taking none at all, no, not for the world)* to recover him with all the eaſe *(without cauterys to be ſure)* and ſafety they can: with ſuch the following piece will have its weight, *(for ſurely none of thoſe who have been thus careſt with the few, honeſt, ingenious,*

ingenious, discerning, men of application, extensive thought, loose understandings, unembarrast, inconsistent, interests, and the like, will ever attempt to put this piece in the scale, or so much as question the standard weight thereof.)

To proceed.—The author is a person of the first eminence, with regard both to his dignity and abilities in physic, *(of the former there is no dispute, of the last the world will judge by the performance)* being head of the faculty of Montpellier; *(a city of more renown, in the editor's opinion, it should seem, than that of London, where the professors of the same are most of them, if not all, old women and nurses)* a place to which our countrymen fly *(I suppose he means in the packet boat)* after the popular salivations *(this man is a dear lover of the populace)* have proved ineffectual: *(here, methinks, it had been necessary to have given us some examples of those cured at Montpellier without spitting, having been thus popularly salivated with us to no purpose)* nor must it be omitted, *(well thought of on my word)* that the person they have recourse to is our very author, *(prodigious!)* Monsieur Chicoyneau *(surely it must be worth while to take wing to Montpellier, to see so wonderful a man, who understands so well not only when the same is necessary, as you will find presently by the invincible experiments, but also how to rub the mercurial ointment upon the skin of the patients, so that they shall never salivate)*. If people can be content to have experience,

 without

without paying dearly for it, *(for though the operator is never so kind to our people, yet the people at Montpellier, he tells you plainly, will make you pay, and dearly too, for every thing else)* it is here offered á bon marché *(excessively civil, if he had not confounded our people with these two hard words, brought over, I suppose, when he last took wing from that wonder-working place, the city of Montpellier)*. He shews them how to save the fatigue of a voyage *(just before it was a flight)* to Montpellier, and the torture of a salivation at home; *(for you must know they never have sore chaps at that city, as you may see in the undeniable experiments here following.)*

(We are now got towards the conclusion, and it is surely time, though some of the greatest blunders and absurdities are yet behind.)

What he here publishes, is only the practice of a single person *(with nine more in company)* and a single year, among a number of each equally successful *(unless that some were cured perfectly, others imperfectly, and many were never the better)*. From the notes *(which are the editor's)* it will appear, that the method recommended is no local one, *(howbeit ointments and plaisters too have been ever so denominated; but to set us right here, we are told what is still more surprizing surely)* that the change of air and climate make no alteration in its effects, and that it succeeds every whit as well at London as at Montpellier, *(curious that is, in spight of your teeth,*

teeth, ſometimes there may happen a ſore mouth, and ſlavering in both places.)

(Before we come to our author's experiments, it may be needful we make ſome remarks upon his introduction, though not in the way of deſcant, as in the editor's advertiſement; yet otherwiſe, as the matter thereof requires, and which we will anſwer paragraphically, as they ſtand inſerted. To begin, therefore,)

Though mercurial ſalivation be almoſt univerſally allowed the only cure of a confirmed lues; yet if reaſon, facts, and experience, may prevail over cuſtom, authority, and vulgar prejudice, it will be found ineffectual, and pernicious therein *.

To begin the proof of this aſſertion with matters of fact.

1. If a perſon free from a venereal taint be ſalivated in the common method, the ſaliva he evacuates is as fetid, and its quantity as large, as if he were infected: hypochondriacs have afforded too many inſtances hereof: it is, therefore, a vulgar prejudice to ſuppoſe that a copious evacuation of fetid ſaliva argues the virulency of the venereal infection; both the quantity and ill ſcent are otherwiſe ſatisfactorily accounted for. The quantity proceeds from the vehement ſtimulating

* REMARKS BY TURNER.—This, I think, ſo bold an advance, that no man who had not the utmoſt aſſurance of truth being on his ſide, would have offered to the world, much leſs in oppoſition to that reaſon, thoſe facts, and that experience he calls upon to umpire, as will be manifeſt, I doubt not, preſently.

power

power of the mercurial particles admitted into the blood; whereby the ſaliva is encreaſed, its ſecretion promoted, ſome of the veſſels it paſſes through are diſtended, burſt, and dilacerated, and conſequently corrupt, and give a bad ſmell*.

2. Common experience aſſures us, that the diſtemper, though palliated for a ſeaſon, often remains uncured, and breaks out more ſeverely after a ſalivation has been accidentally raiſed, by mercurial preparations internally taken; which gives us a ſuſpicion, at leaſt, that ſuch an evacuation is not the proper cure in this caſe: nay, ſo far are the ſkilful artiſts from promoting this diſcharge, when it thus happens, that they endeavour by all means to put a ſpeedy ſtop thereto; a conſiderable argument, ſurely, that they think ſalivation either uſeleſs here or detrimental†.

3. After

* Remark.—As to the ſaliva evacuated, either in the ſound, or the diſeaſed ſtate, we have taken notice in our Preface to the Practical Diſſertation aforegoing: but ſurely it may be made a queſtion, whether the quickſilver, as merely ſuch, acts otherwiſe than by its pondus, as I have there alſo obſerved.

† Remark.—If theſe are the undoubted and invincible obſervations by which he would eſtabliſh his new method, I am afraid they will weigh little; and for the ſame reaſon we muſt diſclaim the bark, becauſe ſome intermittents ſtand out againſt it: but common experience, as well in the firſt as the laſt, proclaims the contrary to that which he aſſerts. What he ſays of the diſtemper growing worſe after accidental ſalivation, I think cannot be imputed thereto

3. After the uſe of a little mercurial ointment, or before the ſalivation riſes to its intended height, many ſymptoms of the diſtemper, as ulcers, chancres, pains of the limbs, &c. uſually vaniſh: but if the effects of mercury be ſo great without ſalivating, why may not a proper continuance of it in this manner complete a cure*?

4. On the other hand, the ſame ſymptoms will ſometimes remain after a profuſe ſalivation has

to, but to the nature of the diſeaſe, which poſſibly, though not yielding to this ſlight accidental ſpitting, might have been ſubdued, had the ſame been carried on, or not been checked after its appearance. However, we do not pretend that ſalivation is at all times infallible, nor, I think, does he the way of *friction*, as may be gueſſed by the following experiments. If the greater numbers, and the moſt deplorable objects are holpen thereby, it is deſervedly to be continued: who theſe artiſts are I cannot imagine, unleſs himſelf and ſome few of his countrymen, together with the *honeſt*, *ingenious*, *diſcerning*, &c. taken notice of in the Editor's Advertiſement.

* REMARK.—Here, doubtleſs, is a ſolecíſm, and the author, I fear, is running himſelf into a ſnare. Firſt, he ſays, the ſymptoms vaniſh before the ſalivation is at the height; and then talks of the effect of the remedy without ſalivating at all; but I think the interrogatory may be fairly retorted, his query ſtanding thus in his firſt words: if the effects of Mercury are ſo great, even before the ſalivation is at its intended height; what might we not expect by proſecuting the ſaid method, when not only theſe ſymptoms enumerated, but all others, the attendants upon that diſeaſe, notwithſtanding all our author's invincible arguments to prove the ſame uſeleſs and detrimental, are generally vanquiſhed?

been

been obtained; in which caſe it is certain, that the venereal taint is not all carried off with the ſaliva*.

5. When a ſalivation proves ineffectual *(here we have a tacit conſent that ſometimes it is effectual, though juſt before it was always detrimental and uſeleſs in this diſtemper)*, the moſt judicious practice orders the patient, after the recovery of his ſtrength, to apply the mercurial unguent in ſmall quantities, at proper intervals, ſo as to prevent a ſecond flux at the mouth; and this with very good ſucceſs. The moſt experienced phyſicians are therefore ſenſible, that ſalivation not only ſometimes fails to eradicate the lues, but alſo that this grand evacuation ought to be guarded againſt in future attempts to cure it †.

6. Salivation,

* Remark.—The amount of all this is only that there are ſome inſtances which nobody that I know of ever diſputed; wherein, neither this, nor any other method, will avail, not even his own dear darling frictions without ſalivation; and we readily join iſſue, that ſuch as are not cured, have not received their cure, whether they ſpit or not.

† Remark.—Here likewiſe, as before, we have hot and cold in the ſame blaſt; ſalivation cures, but it does not cure; or when mercury does not cure by ſpitting, we muſt try what it will do without. We have already owned, that at ſome times the diſeaſe is too powerful for ſalivation; but let the Doctor give us but one inſtance of a profound infection (of which none ſuch appears among his forty experiments) as gummi, nodes, exoſtoſes, or carioſity, inſtead of chancres, buboes, or ſerpigines, &c. removed without a ſalivation; I will engage to produce half a ſcore of that

6. Salivation, becauſe of the great danger that attends it, is never practiſed upon very ancient or worn out perſons, infants, pregnant women, hectic, highly ſcrophulous, or ſcorbutic patients; but the cure of theſe, when infected with the lues, is happily committed to the prudent uſe of mercurial frictions, ſo as to prevent the leaſt ſalival flux. But if the lues be thus curable in tender and ſhattered conſtitutions, why not alſo in ſtrong and robuſt bodies*?

that kind, for each ſingle example, reſtored to perfect health thereby. Some of them, where his frictions, as he has inſinuated on the other ſide, had been divers times undergone, the patient growing ſtill more diſeaſed than before; and in juſtice ſurely, he ſhould have told us who his experienced phyſicians were, as well as given us better proofs than we can find here, to juſtify that practice.

* Remark.—We have here an account of the ſubjects not fit to undergo the remedy; yet ſuch as theſe we ſee his own experiments are made upon it. If it be anſwered, without a deſign of ſalivating, it may be replied, that no man uſing the friction in this manner, can abſolutely warrant the ſame ſhall not enſue; as you will ſee happened in his firſt experiment, as alſo in ſeveral of the reſt. Nor ſurely, I think, would any experienced artiſt but himſelf, have rubbed a quickſilver-ointment into the body of a man ſeventy years of age, whether with intention of ſpitting or not. As for the ſucceſs with the ſtronger, where it will anſwer in the weaker, I think this is out of the queſtion; unleſs he believes any man can be ſo ſilly as to ſuppoſe what is ſafe and harmleſs to an infant, ſhould be hurtful to the adult.

7. Perſons

7. Perſons of the largeſt experience in venereal caſes, from duly reflecting upon their own practice, have ingenuouſly acknowledged, that ſalivation contributes nothing to the cure of the lues; and wiſhed to perform it by a leſs hazardous, painful, and nauſeous means; declaring themſelves willing to abandon the old method, and make uſe of this, would the groundleſs prejudice of their patients allow them *.

8. Upon a careful examination of the whole matter, I was firmly perſuaded, that the uſual

* REMARK.—This is the moſt jejeune argument of all; there being none certainly ſo prejudiced againſt an eaſy cure, could the ſame be aſcertained from reaſon and experience, eſpecially ſo large: nor have I heard yet of any one in his ſenſes, who deſired his ſurgeon to cut off his arm or leg, when he was well informed, that with much eaſe and ſafety, the ſame might be preſerved by a long experienced remedy. It is much he would not inform us of theſe perſons of large experience, who have thus expoſed themſelves to continue a dangerous and painful method, merely in compliance with the prejudice of their patients, and contrary to their own better judgment, or knowledge of an eaſier and ſafer way. I am perſuaded the city of London can furniſh gentlemen of as large experience in theſe caſes as any in France, not excepting Monſieur Chicoyneau himſelf, or thoſe of the ſame faculty in Montpellier: and notwithſtanding his editor's ſuggeſtion, I know not one of the whole number but would readily come into any eaſier method than that practiſed at preſent, which they ſhould find, upon experience, would anſwer their expectation.

method

method of falivating for the lues, was not only infignificant, but prejudicial to the cure. I therefore refolved to purfue a more gentle means, and laft year made ufe of mercurial frictions, at convenient intervals, to forty patients, who, notwithftanding the vulgar prejudice, were many of them fearful left a falivation fhould rife upon them*.

9. It ufually happens, indeed, that thofe who have no notion how mercury acts upon the body, obferving venereal patients to grow well after falivation, prefently attribute the cure to the fenfible evacuation, whereof their eyes are witneffes.

* REMARK.—It is, doubtlefs, the duty of every honeft artift, to ftudy the eafe and fecurity of his patient; and therefore I am far from blaming our author's induftry: but when he makes fo bold a ftep, as to tell us the method of falivating is infignificant, nay prejudicial, contrary to the experience of fo many hundreds yearly cured thereby, fome of which had fruitlefsly alfo undergone his frictions; this, I fay, is arraigning not only the opinions, but the fenfes of mankind, and argues, furely, a want of that due examination he pretends to, before the fame was delivered. In his preceding paragraph, it was the patient's prejudice oppofed his cure, without fpitting: but here of a fudden they become fearful of what they defire. So unhappy is our author, for want furely of examination, or fomewhat like it; but if they did really fear that they fhould fpit, their fears, at leaft, of many of them, were not groundlefs; fince notwithftanding the Doctor's different intention, it fo fell out, as we obferved but now, and as you will find in feveral of his invincible experiments we fhall come to prefently.

But

But as philosophical reasoning would be thrown away upon these people, I refer them to visible *(that is, ear-witnesses)* matter of fact for conviction*.

10. I must here farther observe, that salivation is judged necessary by the vulgar, to throw off the quantity of Mercury received from the unction: but our eyes will tell us, this is also evacuated by stool, by urine, and common perspiration; not here to mention, that the cure is universally found to be best performed, when the Mercury is longest detained in the body†.

11. Nor

* REMARK.—If the Doctor had not given us a little of his philosophy before, about the stimulus and stink of the mouth, this might have passed well enough; but, doubtless, till we have some farther intelligible explication of this affair than he has laid down, the people will be apt to stick to their eye-witnesses; and if they see a poor miserable object, who had been greased several times to no purpose without spitting, recovered afterwards under a salivation, they will, I say, be apt to think (maugre all the Doctor's flourish to the contrary) that such salivation was the means of his cure.

† REMARK.—As to this matter, the vulgar, I believe, think nothing of it; I mean the remedy; nor dwell upon the manner of its operation, it sufficing them to receive their cure: but in regard to the artist, it certainly behoves him to take care his patient is freed, as well from the said remedy, having done its office, as the disease thereby to be encountered; lest a palsy take place of a pox, which is too frequently the case, or a tremor that of an intense pain. Whether this friendly enemy pass off by stool, urine, spitting, perceptible or imperceptible transpiration, it may be indifferent

11. Nor muſt I omit, that it ſeems more difficult to convince ſome phyſicians than ſome patients, that the cure is not performed by evacuating the infection along with the ſaliva: however, the queſtion is not, Whether the virus be diſcharged with the ſaliva, but whether a ſalivation be neceſſary or ſuperfluous, aſſiſting or detrimental to the cure? With me it is certain, where either a ſalivation, or any other conſiderable evacuation happens, the mercury eſcapes before it has totally inſinuated itſelf, and ſtruck off the lurking infection from the finer veſſels, or inmoſt receſſes of the body; and hence I make no queſtion the cure is often left unfiniſhed by ſalivation*.

12. And

indifferent for ought I know; yet ſurely no one can keep him very long an inmate, whatever good opinion this gentleman has entertained of his being harmleſs, without ſuffering thereby in the moſt ſenſible part too of his tenement: although from our author we may ſurmiſe, that the mechanics occupied therein, contrary to what I have laid down in my Preface, muſt have the haleſt and robuſteſt habits; and above all others, longevity and a ſtrong ſyſtem of nerves, muſt be entailed upon the miners, who are ſo happy as to converſe daily with this harmleſs gueſt, and that too in puris naturalibus.

* Remark.—It is plain, from the foregoing, that the capacity of all phyſicians, who think differently from himſelf, is called in queſtion; and that they are, at leaſt as to this ſubject, as ignorant as their patients, in believing the venom thrown off with the ſaliva, without a ſyllable of proving the inconſiſtency thereof. But waving that perhaps too knotty a taſk, the queſtion, as he ſays, is not whether the virus, &c. which queſtion we have already reſolved.

12. And if the mercury acts upon the venereal virus, by virtue of its mechanic properties, it muſt doubtleſs cauſe ſome alteration in the fluids of the body, which effect will be hindered by any large evacuation, that, like phlebotomy, or a ſtrong cathartic, only empties the veſſels*.

13. Moſt

ſolved. As for the time this remedy requires to enter the inmoſt receſſes of the body, whoever has ſeen the method of injecting thereof, will eaſily be convinced, that the ſmalleſt tube in the animal ſtructure, is inſtantly pervaded thereby, though perhaps not ſo ſuddenly as by the ſyphon; yet conſidering the velocity of the motion of the blood, now encreaſed, and the extreme fineneſs of its moleculæ, together with the form thereof, which is ſpherical or globular, and ſo fitted to paſs the veſſels of whatever diameter, muſt eaſily reconcile how few circulations will carry it into thoſe receſſes: that in a few days they muſt blend themſelves with the fluids therein contained, as well as if whirling about for a whole month; and that when once the venom is ſo altered thereby, as to be fit for carrying off, by any proper excretory ductus, together with itſelf, whether the ſame be done by ſtool, as frequently falls out, by ſweat, or urine, as I ſuppoſe more rarely, by ſpitting called ſalivation, as moſt natural and common, the ſooner it is eliminated, certainly the better; and the leſs ſtay after this apparatus, or fitting it for ſuch expulſion, the leſs danger to ſuch parts of the fabric, to which it is found ſo manifeſtly injurious.

* Remark.—That mercury acts by its mechanic properties, no one, I ſuppoſe, doubts; and that it cauſes ſome alteration in the fluids of the body, is as indiſputable: but what theſe mechanic properties are, and in what the alteration conſiſts, he very diſcreetly overlooks, for fear poſſibly he might throw away his philoſophical reaſoning upon us: but doubtleſs he muſt be out in fancying the ſame hindered,

after

13. Moſt of the forty patients mentioned, went through a gentle courſe of frictions, in between eighteen and twenty-five days, the uſual term

after the alteration induced by the evacuation; which, it is more than probable, conſiſt of the ſalutary effects thereof. Is not the practice alike in almoſt all our alexipharmicks, viz. having ſubdued the malignity, and fitted it for that end, to aſſiſt the expulſion by the moſt ſuitable outlets, if I may borrow one of the Doctor's own phraſes? Is not this the voice of Nature? Do we not give vomits in ſome, and after previous preparation of the morbific matter, diaphoretics in others, diuretics again in others, with cathartics after all, to carry off the illuvies yet remaining, by the common ſewer of the inteſtines? And all founded upon the obſervation, that Nature ſeveral ways oppreſſed, endeavours diverſely to acquit herſelf thereof; and under which oppreſſion ſhe muſt ſtill groan, if ſuch paſſages happen to be ſhut up, or entrance denied for throwing off the ſame. It was, I make no doubt, by chance, as in many others, we hit upon this diſcovery, as it has been already noted by an antiquary; that from rubbing the ſores of theſe, and others the grieved parts, with ſome quickſilver ointments, without the leaſt view or apprehenſion of a ptyaliſm, but in order to deſtroy the diſeaſe in the ſkin, and obſerving the ſore mouths attending, after which the malady, by a ſort of enchantment, diſappearing; not only ulcers drying up, but the pains ceaſing, they after deſignedly tried the like experiments, by which to overcome the like, in a way perhaps more cautiouſly, and, by degrees, methodically alſo, until it came to be practiſed in the manner now-a-days with us. Evacuations by bleeding and purging have both their uſe and abuſe, as well in ſmaller as the larger quantity; none being too large, whilſt the patient is rather ſtrengthened than weakened thereby; the ſpirits, before oppreſſed, enlivened,

term for actual salivating in the common method; but the time that is spent to prepare for a salivation, and the time required for recovery after it, are saved in our method; which consequently lessens, as well the expence and duration, as the uneasiness of a cure*.

I will

livened, and the morbific matter, offending either in quantity, or quality, by plethora, or cacochymia, is unloading. With almost, if not altogether, the same reason, might this author deny the benefit, or advantage of that spontaneous ptyalism, so truly critical in some fevers; particularly the confluent small-pox of the adult, as this of the salivation raised by mercury: the former being depuratory to the blood, and deriving such part of the variolus matter by those of the mouth, as cannot be discharged by the glandules of the skin: the latter, that of the venereal poison, thus linked with itself, and freeing the blood, as well thereof as of itself, by the same passages.

* Remark.—What time they take up in France in this useless preparation, I cannot say, though I have been told of one longer continued than the salivation itself; which our wiser English artists, upon experience, finding unnecessary, have many years discarded: though the editor of this Treatise supposes this neglect the reason why some have been disappointed, not considering the Idiosyncrasy, or peculiarity of temperament; whence all the preparatives in the world will not render some bodies susceptible of this particular secretion, so natural to others: and therefore though bathing a few days before with warm water, may suit with some thin habits; bleeding in the plethoric, and purging, especially by lenients, for over costive bodies, together with the abstinence I have already prescribed in the preceding discourse; yet is the rest of the apparatus a direct amusement, a cheat upon the fancy of the patient, and an

unnecessary

I will finish, says Mr. Turner, by giving a case of a gentlewoman, strong and vigorous before, who, on the account of some venereal symptoms, chiefly pains

unnecessary procrastination of his intended cure. Nor will the method of friction be less tedious, some having required a month, then stopped by reason of sore chaps, and to it again, as I have known it, and all to no purpose, unless by the delay of spitting, the symptoms encreasing, the patient has been in danger of being thus fooled out of his life. So that the sum of all seems now reduced to this short query, notwithstanding the chicanery of Monsieur Chicoyneau; whether a sore mouth and slavering with a cure, are not preferable to all this greasing and daubing without, however easy to be undergone, and entertaining a secret enemy, which at unawares, may after undermine and ruin him, as certainly, though perhaps less sensibly, than his disease?

We are now arrived at the experience itself, (as he calls it) or his forty patients; in which it must not be expected that I shall recite every paragraph at length, as I have done the preceding, but collate only the several cases, and report the success of each; when the reader may judge of this method, whether he can see any thing therein that is fit to be pursued, or for which we ought to lay aside our practice of salivation.

Twenty of the forty were uncertain as to the disease being venereal, or not; and that near upon the same number, that is, half, did salivate; though, perhaps, less than in the common way, where we encourage the same, at least do not endeavour to stop it. That five of the six last, particularly (the principal of the venereal cases) obtained their cure in all likelihood thereby. As to the miscarriages, we find three out of eight, four out of eleven; three more out of eight, and one out of two, besides one that out of three deceased: so

pains in her limbs, very lately underwent the frictions, which, without ſenſible evacuation of any kind, have left her with ſuch entire reſolution of

ſo that here are twelve, as above, miſſing their aim out of his forty patients. I wiſh ſome of them were not much worſted, as we ſay, by the raſh undertaking; nor among them all will you find one inſtance of a profound *infection**.

The concluſion of the piece is made up of the ſame rhodomontade with his introduction; extolling this gentle harmleſs method of inſenſibly wounding us in the moſt tender part, the nervous ſyſtem; lodging an enemy in our bowels, or truſting to his getting out again any way but that which Nature ſeems more peculiarly at this time to indicate; I mean his running off together with a flood of diſeaſed lympha, (now melted down) by the glands of the mouth.

With reſpect to the uſe of this remedy, whether intending ſalivation, or not, in the hyſteric, hypochondriacal, or melancholy, in the ſcrophulous in ancient people, and above all, in thoſe who are paralytical, I think the Doctor ſtands by himſelf: I am ſure the generality of phyſicians will declare againſt it, as utterly pernicious and detrimental; ſo that from any of his premiſes, I cannot, for my own part, conclude this method ſo valuable as he repreſents it; nor that ſalivation ſhould be diſcontinued in the cure of the lues; though I heartily agree, that all phyſicians and ſurgeons ſhould communicate their obſervations, not only on this, but any other, by which mankind may be benefited, and phyſic advanced; having long ſince borrowed for my own Motto, that of the moſt learned and illuſtrious body in Europe, viz. Nullius in Verba; *and ſincerely wiſhing, be it on which ſide it will,* ut magna eſt, ſic Veritas prævaleat.

* How like this reaſoning to the oppoſition which the acids have received, when chancres, buboes, blotches, are called *Illegitimate Marks* of Venereal Infection.

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the nerves, and loſs of the locomotive faculty, that ſhe is no more in condition to help herſelf, than in her infant ſtate: but for the greater ſatisfaction of our editor, with thoſe of his opinion in this buſineſs, I will here inſert a letter I have received from that noted practitioner more particularly therein, Mr. Samuel Palmer of Bow-lane, by way of anſwer to one I ſent him, whence an inference is eaſily drawn between his calculation and that of Monſieur Chicoyneau's forty caſes.

MR. PALMER'S LETTER.

SIR,

I have peruſed, at your requeſt, Dr. Willoughby's Verſion of Monſieur Chicoyneau's Experiments of curing the lues venerea, by mercurial frictions, without ſalivation.

The original I read over two years ago at the deſire of a friend, whom I told, ſome of the ſymptoms there related, were in themſelves ſo *trivial*, that a few doſes of calomel would have done as much, and that ſome other of his caſes did not appear to me to be venereal.

It is my opinion the method propoſed by him will not anſwer the deſigned end, which I am the more confirmed in, having known one, very little differing from this, not many years ſince practiſed in England without ſucceſs.

The following cafe will, in fome meafure, demonftrate the uncertainty of it.

About the latter end of Auguft, or the beginning of September, 1721, I was defired to vifit a gentlewoman juft then arrived from *Montpellier*, where, in the fpace of nine months, fhe had gone through various courfes of mercurial frictions, for breakings out on feveral parts of her body. When I faw her, fhe had a phagedenic ulcer fpreading from one of her eyebrows to the lid.

Two others of the fame kind upon her head, with a caries of the bone under each ulcer: a node upon each ulna, with feveral ferpiginous ulcufcula upon her arms: another node upon each tibia, and fo much emaciated, that fhe appeared like a fkeleton covered with a loofe fkin.

As to your defire of knowing how many patients might annually be taken into the Lock-Hofpital, Southwark, I here fend you an exact account of thofe that were admitted and difcharged from that houfe in 1720, which was the laft year they were under my direction.

Admitted from January, 1719-20 inclufive, to January 1720 exclufive	115
Cured and difcharged	108
Died	7*

* This is a larger proportion of deaths than in the prefent improved practice, generally without falivation. We fhall fay nothing of the after-injury to the conftitution, arifing from a violent mercurial courfe.

In anſwer to your queſtion relating to a ſalivation, I have generally found, upon the niceſt obſervation, when a fever, looſeneſs, or raſh appeared in the courſe of a ſalivation, raiſed by mercurial ointment, if (upon the removal of thoſe ſymptoms) the ſalival ducts were well ſloughed, and the ptyaliſm continued a due length of time, in proper quantity, we ſeldom, or never, were diſappointed of our cure.

If this gives you any *ſatisfaction*, it will be a *pleaſure* to,

SIR,

Your humble ſervant,

SAM. PALMER.

PRACTICAL OBSERVATIONS.

SECT. XXXIV.

OF THE CURE OF SYPHILIS BY OTHER SUBSTANCES THAN MERCURY.

Girtanner was the firſt who alledged that the effects produced on the human body by the different preparations of mercury were entirely owing to their combined oxygen, and that it was on the diſengagement of this principle, which had a powerful action on the ſyſtem producing the mercurial diſeaſe, that their anti-venereal effects depended.

We do not find, however, that Dr. Girtanner had ever put this aſſertion to the proof, by exhibiting other ſubſtances, containing a large proportion of oxygen, in the place of mercury, in the lues venerea.

Mr. Scott, ſurgeon in the Eaſt India Company's ſervice at Bombay, was the firſt who attempted to verify this doctrine by actual experiment. The nitric acid*, containing about four parts

* The acid of nitre is obtained in various degrees of oxygenation. When the proportion of oxygen to that of azot is leſs than three of the former to one of the latter, it is termed nitrous

parts of pure air and one of azot, was the firſt ſubſtance that occurred to him as being fit for a courſe of experiments in the venereal diſeaſe: he tried this acid alſo in ſome other complaints, the reſult of which it is not my preſent buſineſs to notice*.

Mr. Scott's firſt letter is dated April the 30th, 1796; at which time, he alledges, that the nitric acid had been tried ſo fully as to ſatisfy him of its efficacy. His words are as follow: "I have now had a pretty extenſive experience of the good effects of the nitric acid in ſyphilis, and I have reaſon to believe that it is not in general leſs effectual than mercury in removing that diſeaſe, in all its forms, and in every ſtage of its continuance. I think that, in ſome caſes, it has even ſuperior powers, for I have ſucceeded completely

trous acid, and in this ſtate fumes of a red colour are very freely emitted. But when there are four parts of oxygen, by weight, combined with one part of azot, the acid is tranſparent and colourleſs, emits no vapour, its conſtituent parts are more firmly united than in the other ſpecies, and it is denominated nitric acid. So that nitrous acid, is the acid of nitre containing a ſmaller proportion of oxygen, whereas, the nitric acid is ſuper-oxygenated, or ſurcharged with that principle.

* The following obſervations of Mr. W. Scott are extracted from a ſmall pamphlet which was ſent to Sir Joſeph Banks, entitled, Some Letters upon the application of the Nitric Acid to Medicine, firſt publiſhed in the Bombay Courier, 1797. And it is curious to obſerve, that Sir Joſeph gave theſe letters to Dr. Pearſon, who was ſo *laughed at* by the different medical men to whom he mentioned their contents, that he returned them to Sir Joſeph Banks, reporting his total want of ſucceſs in the cauſe of ſcience and humanity.

with the acid, when mercury adminiftered both in this country and in Europe for years together, had failed of fuccefs.

" A mafs of mercury in the circulation produces many difagreeable effects, that make it often neceffary to give over its ufe before it has anfwered its intention; but the nitric acid may be taken a long time without any material injury to the health, nor are its effects on the mouth, in producing inflammation and a flow of faliva, fo difagreeable as from mercury.

" As the acid I diftil is not ftrong, and is of unequal ftrength at different times, I am regulated chiefly by the tafte in giving it. I make two pints of water as acid as it can well be drunk. This quantity is finifhed every twenty-four hours, taking about a Madeira glafs full only at a time.

" I have fometimes removed fyphilitic fymptoms with the acid in five days; more commonly, I think, they give way in a fortnight; but fometimes, though feldom, they continue for twenty days without any apparent relief. I have cured fyphilis with the acid under a variety of forms, where no other remedy had ever been employed, and for two years I have feen no relapfe in thofe cafes. I have adminiftered it againft the primary fymptoms of the difeafe, and I have given it for exoftofes, for carious bones, for nocturnal pains, for eruptions and ulcers of the fkin, and for all the train of mifery that is attendant on lues."

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This refpectable writer concludes by hinting, "that feveral of his friends had begun to ufe the nitric acid in fyphilis, and that an account of their experience fhould make the fubject of a future paper." I hope," fays he, "this flight account will induce medical practitioners to try the effect of the nitric acid in fyphilis; a difeafe which, in this climate (viz. the Eaft Indies), is fo frequently the difgrace of their art."

The fecond letter of Mr. Scott is dated June the 11th, 1796. He therein endeavours to obviate an objection which might be made againft the nitric acid, on account of its decompofing the teeth. His method is, to mix the congee of rice with it, or to fweeten it with fugar, or liquorice root. Although thefe additions may deprive the remedy of fome of its oxygen, he has not found that they diminifh its effect."

Mr. Scott alfo notices, that when the acid has been united with the earth of alum, it had the advantage of not acting in the fame way on the teeth. From this nitric clay he obtained the fame effects as from the nitric acid.

He concludes thus, "In a few years, I think that mercury, as a remedy for lues venerea, will be banifhed by this acid; and in fome of my dreams for the improvement of the condition of man, I even imagine that the poifon of fyphilis may, in a great meafure, be extinguifhed over the face of the earth, not by the doubtful efforts of the magiftrate,

magiſtrate, but by an agent like this, ſafe; ſimple, and efficacious."

With a view, ſays Mr. Cruickſhanks*, Surgeon and Chymiſt to the Ordnance, to ſatisfy ourſelves of the antiſyphilitic property of the nitrous acid, and, at the ſame time, to diſcover how far this might be owing to its oxygen, the following trials were inſtituted:

The firſt ſubſtances employed were acids, ſuch as are known to contain much oxygen, and which part with it readily; as yet we have only uſed the nitrous, oxygenated, muriatic, and citric acids. It is well known that the baſis of theſe are different, and the only thing which they have in common is oxygen; if, therefore, they ſhould all produce the ſame, or nearly the ſame, effect, on this diſeaſe, as well as on the conſtitution, the natural inference to be drawn is, that this muſt depend upon their common principle.

The only other ſubſtance which we have yet tried, is the oxygenated muriat of potaſh, a neutral ſalt, containing likewiſe much oxygen, and which parts with it very eaſily. We mean, however, to extend our reſearches farther when a proper opportunity ſhall offer, and to make trials with ſome of the other acids, the black oxyd of mangane ſe, &c.

* Vide Dr. Rollo's moſt excellent work on the Diabetes, with the Appendix by Mr. Cruickſhank, who is univerſally acknowledged to be the firſt chemiſt in this country.

In

In detailing the following cafes, we fhall fatisfy ourfelves with defcribing the fymptoms at the commencement, and any remarkable change which afterwards occurred during the cure; with enumerating the dofes of the different medicines employed, and their effects in general on the difeafe and conftitution; and with giving the final refult and duration of the treatment. A more particular, or daily, account (althoughfu ch was regularly kept), would be tirefome, and could not afford any additional information, or fatisfaction.

It may be proper to obferve, that moft of the patients whofe cafes are here related, were kept in a ward fet apart for the purpofe, and where it was impoffible, from the nature of a military hofpital, they could procure any medicines but fuch as were given to them. The cafes were alfo felected, being primary affections*, and fuch as were *ftrongly* and *diftinctly marked*, and where *no mercurial remedies had been employed.*

* Primary cafes, according to John Hunter, are the beft criterions of venereal infection. His words are: "Of the fymptoms of the fecond ftage of the lues venerea, it muft be obferved, that *this ftage of the difeafe is not fo well marked as the former*, and as it is of more importance, it requires *all our difcernment* to determine *what the difeafe is.*"—Vide page 327.

GENERAL ABSTRACT

Of the Patients admitted in the Royal Infirmary at Woolwich, dividing their Cafes into the Primary and Secondary Nature of the Venereal Difeafe, fpecifying the particular Remedies employed, and the refpective Numbers who have been treated.

1ft. PRIMARY DISEASE. *Remedies employed.*	*Number of Patients.*
Nitrous acid	54
Oxygenated muriat of potafh . . .	54
——————————— manganefe .	3
——————— muriatic acid	4
Lemon-juice	3
Nitrous acid and oxygenated muriat of potafh	7
Ditto and oxygenated muriat of manganefe	1
Mercury and the new remedies combined	16
Total	142 cured.

2d. SECONDARY DISEASE.	
Nitrous acid	5
Oxygenated muriat of potafh . . .	5
——————————— manganefe and potafh	1
Nitrous acid and oxygenated muriaat of potafh	2
Total	13 cured.

It

It would appear from the cafes juft related, that the nitrous, citric, oxygenated, muriatic acids, and, more particularly, the oxygenated muriat of potafh, are capable of removing the primary fymptoms of the lues venerea, and that too without producing any thing like mercurial falivation. How far thefe cures may be permanent, or whether the fecondary fymptoms may not hereafter fupervene, can only be determined by further experience and obfervation; as the primary fymptoms, however, have not yet returned in any one inftance, we fhould fuppofe that thefe have been completely removed; the only doubt therefore which can reafonably remain, muft relate to the fecondary ones; and if, in a few cafes, fhould even thefe make their appearance at fome future period, it can form no folid objections to this mode of treatment, as fimilar confequences frequently follow the ufe of mercury.

In our firft trials it was thought proper to confine ourfelves to cafes of primary affections, thefe being always lefs equivocal and doubtful; we intend, however, when an opportunity fhall offer, to employ the fame fubftances in the more advanced ftates of the difeafe, particularly where mercury has either failed, or had little effect.

Before we attempt to explain the modus operandi of thefe remedies, it may be proper to take a review of the effects they were obferved to produce on the conftitution in general.

The

The general effects from the acids were, an increase of appetite, an augmentation in the quantity of urine, more, or less thirst, white tongue, and an increased action of the whole system, most generally accompanied with sizy blood. The oxygenated, muriatic acid appeared to be the most active, and the citric acid the least so. The nitrous acid, in a few instances, likewise affected the bowels. The oxygenated muriat of potash produced thirst, the white tongue and the increased action of the system, in a more remarkable degree than the acids, but there was less alteration perceived in the quantity of urine, and on the appetite. The effects, therefore, induced in common by these different substances, appear to be a general, increased action of the whole system, accompanied for the most part with sizy blood.

That this increased action is occasioned by the disengagement of oxygen, is rendered highly probable from the following considerations:

1st. It is now sufficiently known that oxygen is the substance which imparts to the different acids their activity, their tendency to combination, and other characteristic properties, their radicals being all different, and possessed of powers either opposite, or in no respect similar to those of the compounds, or acids.

2d. The oxygenated muriat of potash appears to be, in fact, nothing more than the common muriat, combined with nearly half its weight of oxygen;

gen; for if this ſubſtance be expoſed to heat in a retort, a very large quantity of the pureſt oxygen gas is diſengaged, what remains being the common muriat of potaſh, amounting to a little better than half the weight of the ſalt employed. Now it muſt be allowed that the common muriat, at leaſt in the doſes given upon the preſent occaſion, could not have produced the remarkable effects which we have aſcribed to the oxygenated muriat. This difference of effect muſt, therefore, be owing to its combined oxygen, a circumſtance rendered the more probable, when we reflect that a ſimilar action is produced by the union of the ſame ſubſtance with the radicals of the acids.

3d. When oxygen gas has been inhaled into the lungs, a general increaſed action of the whole ſyſtem has ſucceeded, and that ſometimes to a very remarkable degree. (See Beddoes on the Medical Qualities of Factitious Airs, &c.)

From theſe conſiderations, therefore, we would infer, that the general, or conſtitutional effects which have been obſerved to follow the uſe of theſe remedies, muſt be aſcribed to the diſengagement of their oxygen.

How then does this increaſed action cure the local ſores produced by the venereal virus? Is it true, that all general affections of the ſyſtem ſuſpend for a time the local ones, proceeding from this poiſon, or muſt we have recourſe to ſome

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ſpecific powers, as has generally been the caſe in explaining the action of mercury? We are inclined to adopt the firſt hypotheſis, and to ſuppoſe, with Mr. Hunter, that mercury, as well as the remedies under conſideration, cure this diſeaſe by exciting a new action in the ſyſtem, in conſequence of which, the ſyphilitic one is ſuſpended; and this ſuſpenſion being continued for a ſufficient length of time, the whole of the virus, from the change which the fluids naturally undergo, is at laſt completely expelled from the body.

With regard to the laſt hypotheſis, we would obſerve, that there can be little or no doubt if oxygen could be applied directly to this poiſon, it would deſtroy it ſpecifically, in the ſame manner as it deſtroys many others; but it is extremely difficult to conceive how this ſubſtance, ſo prone to combination, ſhould, when taken in by the mouth, be applied in its pure ſtate to a remote, local ſore, in a quantity ſufficient to produce any ſenſible effect; and this objection applies ſtill more ſtrongly to mercurial remedies, becauſe in ſome of theſe, as the mercur. muriat. corroſiv. and mitis, the quantity of oxygen diſengaged muſt be extremely ſmall. From theſe conſiderations, therefore, we are inclined to adopt the opinion, that theſe different remedies produce their effects by exciting a new diſeaſe, or action, in the ſyſtem; and that this action, for the reaſons already given, is produced by the diſengagement of their oxygen. Should

this

this theory be correct, we have no more reason to expect relapses after a course of these acids, &c. than after one of mercury; nay, if we conceive the virus to be absorbed, and carried into the general mass of circulation, where it must be exposed to the action of the disengaged oxygen, the patient, upon the whole, may be considered as more secure, for there will be a greater chance in this case of its complete destruction and eradication. This is a point, however, which experience alone can determine.

If these remedies should be found, from further experience, to be adequate to the cure of this disease in all its stages, the advantages which they possess over mercury are so great and important, that they must, in a great measure, supersede its use. They require no particular regimen, no confinement, are not accompanied with any disagreeable consequences during their operation, and they seem, in general, to produce their effects more quickly and certainly, particularly the oxygenated muriat of potash. But what we consider to be of far greater importance is, that they do not appear to excite, in any sensible degree, the action of other diseases, especially inflammations, one of the greatest inconveniences attending a mercurial course, and by which many have lost their constitutions, and several their lives. Mercury, besides its occasionally bringing other diseases into action, has also very deleterious effects upon

ſome particular habits; and this has been ſo remarkable in certain caſes, that from the neceſſity of occaſionally leaving it off, cures have not only been protracted, but the complaint has had an opportunity of running through all its different ſtages, by which the conſtitution has too often ſuffered an irreparable injury. No diſagreeable conſequences of this kind are likely to follow the uſe of theſe acids, or the oxygenated muriat of potaſh; for although they were given in ſeveral weak habits, the health did not ſuffer in the leaſt, on the contrary, it, in general, ſeemed to have been improved.

Although we ſuppoſe that mercury and the acids, &c. cure the venereal diſeaſe by exciting ſome peculiar action in the ſyſtem, the nature of theſe we, nevertheleſs, conceive to be perfectly different; the mercurial action muſt, no doubt, be owing in part to the metal, and not to oxygen, for all the mercurial preparations, whether oxyds, or combinations with acids, produce ſalivation, ulceration of the tongue and mouth, &c. very much alike; effects which, we have ſhewn, are not occaſioned by oxygen diſengaged under different circumſtances. The mercurial action is alſo accompanied with an impaired appetite and general waſting, the reverſe of which takes place during the action of the new remedies. Indeed, the white tongue and ſizy blood appear to be the only circumſtances common to both, for in

all

all other refpects they differ effentially. We know it has been faid, that the nitrous acid produces falivation, but this is certainly a miftake, which has probably arifen from confounding the local and temporary forenefs in the gums and teeth, occafioned by the acid, with the inflammation and ulceration produced by mercury; for in no one inftance, even where the common concentrated acid was given to the quantity of three drachms daily, did we perceive any thing like mercurial falivation. The mercurial action we, therefore, conceive, muft be owing to the metal rendered active by its union with acids, &c.; but that of the acids and oxygenated muriat of potafh, to the difengagement of their oxygen.

Of the different fubftances which we have yet employed, we would prefer the nitrous acid and the oxygenated muriat of potafh; the firft, becaufe it may be readily procured, and feems in moft cafes fufficiently active, and the laft, on account of its being the moft efficacious and certain, producing, in moft inftances, an almoft immediate effect upon the difeafe, without injuring the conftitution. The nitrous acid which we have hitherto ufed, has never been perfectly pure, nor highly concentrated; in fhort, it was nothing more than the common fuming acid of the fhops. The nitric acid has not been tried, nor do we conceive that it would poffefs any fuperior advantages. This medicine for the moft part produces a fenfible

 effect

effect in six, or eight days, and frequently accomplishes a cure in fifteen, or sixteen. We have generally begun with a drachm in the day, diluted with about a pint and a half of water; but where the acid is only of the usual strength, and free from any metallic impregnation, a drachm and half, or even two drachms, we believe, will seldom be found too much. We have never exceeded three drachms in the day, but we do not by any means suppose this to be the greatest quantity which can be taken with safety and advantage. Of the oxygenated muriat of potash, we have generally begun with three, or four grains, although in general six, or eight may be given, at first, four times a day; where it produces sickness, or griping (which is sometimes the case) the dose should be diminished. We have never yet exceeded the quantity of fifteen, or sixteen grains four times a day, not but that more might have been given had it ever been found necessary.

One of the greatest objections to the oxygenated muriat is, the difficulty of preparing and purifying it; nor is there any process yet known, by which it can be manufactured and sold at a low price; for these reasons we have no doubt that a very impure kind will be offered for sale, the consequences of which must be, want of success and disappointment to those who employ it.

Its purity may be judged of by attending to the following circumstances: the crystals should be shining

ſhining flat rhomboïdal ſcales, or tablets, without any mixture of cubes; they ſhould have little, or no taſte, and when thrown upon red-hot coals, ſhould detonate rapidly, with a very vivid flame, and without any decrepitation; but when the cryſtals feel rough, have a bitter ſaltiſh taſte, and decrepitate much when thrown upon live coals, we may be certain that they contain a conſiderable proportion of the common muriat of potaſh, which is always formed in great quantity during the proceſs. This ſalt, when perfectly pure, does not decompoſe the nitrats of ſilver, or mercury. But this degree of purity is not neceſſary when it is to be employed as a medicine; only when completely, or nearly freed from the common muriat, a ſmaller doſe will be ſufficient, and much leſs thirſt excited.

The oxygenated muriatic acid appears likewiſe to be a very efficacious remedy in this complaint; but in the way in which it is uſually prepared, it always contains manganeſe, and not unfrequently lead, particularly when the manganeſe employed has been procured from Briſtol; for the manganeſe from the Mendip Hills very generally contains more, or leſs of this metal. In every caſe where either the oxygenated muriat of potaſh, or oxygenated muriatic acid are prepared in a medicinal point of view, nothing but the pureſt cryſtallized manganeſe ſhould be uſed; that upon Upton-pine, near Exeter, is the beſt. The acid given in the

four cafes related above, was procured by adding the common muriatic acid to the oxygenated muriat of potafh; by this means a very large quantity of the pureft oxygenated acid may be quickly obtained; and it is this procefs we have been in the habit of ufing for fome time, where a very pure acid for delicate chemical experiments has been required.

Inftead of making the gas pafs through water in the ufual way, the oxygenated falt was fometimes fimply added to the common muriatic acid, diluted with about an equal bulk of water; in this cafe the falt was flowly decompofed, and the acid converted into the oxygenated acid. About a drachm of the falt, when pure, was found to be fufficient for three ounces of the dilute acid: of this we have given to the extent of half an ounce in the day, always beginning, however, with a much fmaller quantity.

The philanthropic Dr. Beddoes at this time took up the queftion with his accuftomed zeal and liberality, and through him we have copious accounts of trials made in the Royal Hofpital at Plymouth by Mr. Hammick's fon with fimilar fuccefs, authenticated by the late Dr. Geach.

To DR. BEDDOES.

" SIR,

ROYAL HOSPITAL, JULY 26, 1797.

" I do myſelf the honour, agreeably to your requeſt, of writing to you, and aſſuring you that the patients, whoſe caſes Mr. Hammick, junior, lately tranſmitted, were regularly attended by myſelf; and every circumſtance was remarked as minutely as poſſible, and is ſtrictly true. So great, indeed, has been the ſucceſs of this nitric medicine in the venereal diſorder, that many patients, who had been broken down by an antecedent uſe of mercury, under which the diſorder gained ground, recovered their health and ſtrength without the aſſiſtance of diet-drinks, change of air, the bark, or any other tonic medicine whatever. We have had but few inſtances where the ſtomach and bowels have been affected by it; but the precaution of taking it through a narrow glaſs tube has prevented the acid from affecting the teeth, and the medicine has been rendered more palatable by mixing ſimple ſyrup with it; and this addition, as far as we have hitherto noticed, has been effectual enough to prevent both mawkiſhneſs and pain. But although theſe circumſtances have now and then ſucceeded the uſe of the nitrous acid, it does not affect the mouth, or produce a ptyatiſm. *It does*

not

not impair the appetite, it does not require any dietetic regimen, or confinement. Indurated buboes have yielded to it without ſuppurating; phagedenic buboes have healed after unſucceſsful trials with mercury. In chancres, however large, or ſordid, and in excoriations of the ſcrotum, however fetid, and extenſive, the cure, by its uſe, goes on more rapidly than by a mercurial proceſs. Such chancres and excoriations have been dreſſed only with ſimple ointment, that the patients might not be incommoded by the friction of the linen, and that the effect of the medicine might be better aſcertained when there was no local application. We have not found, after the chancres have been cured by this medicine, that the throat has been affected; a circumſtance not unuſual, eſpecially when ſuch ulcers have been dreſſed with any mercurial preparation. The caſes ſent by Mr. Hammick were the worſt that were received into the hoſpital, and that the nitrous acid has ſucceeded in fifty caſes, or more, is moſt certain.

Suffer me to own, that when we firſt made trial of the nitric acid, no great opinion was entertained of its ſucceſs. Accuſtomed to give mercury in this diſeaſe, a practice ſanctioned by great authorities and time, we were inclined to think that no medicine but *mercury* would cure it. There was no bias, no predilection, therefore, for this new medicine, no attachment to ſyſtem. But as the nitrous acid was ſo reſpectably recommended

by

[illegible], this was a ſufficient motive to make trial of it; and nothing but the ſucceſs that has attended its uſe could authorize us to write in this manner to you, who are the beſt entitled to the earlieſt communication.

I have the honour to be, Sir, &c. &c.

FRA. GEACH."

PRACTICAL OBSERVATIONS.

SECT. XXXIV.

OF THE TREATMENT OF THE SECONDARY STAGES OF LUES VENEREA.

SOME doubts have ſince been diffuſed, whether the remedies juſt delivered are to be eſteemed at all as a ſubſtitute for mercury, and the controverſy has been conducted with that acrimony which warps the underſtanding, and prevents the admiſſion of real truth. The primary ſtages of diſeaſe are denied by Mr. Blair, ſurgeon of the Lock, in his animadverſions *, to be *legitimate* examples of venereal affection, and the more dire

* Mr. Blair has a very curious motto to his book.

"Attaquer une erreur eſt le droit commun à tous les hommes, en médecine c'eſt un devoir: & celui qui s'eſt conſacré à la conſervation des citoyens, ne doit pas craindre de s'élever contre les préjugés dont il connaît les dangers; ſur-tout, quand il peut leur ſubſtituer une vérité utile."

J. S. Mittié.

"To attack AN ERROR is the common right of every man; in phyſic it is a duty: and he who is conſecrated to the preſervation of citizens, ought not to FEAR to raiſe his voice againſt PREJUDICES of which he knows the danger; more eſpecially when in their place he can *ſubſtitute* an USEFUL TRUTH."

An excellent motto this for the other ſide of the queſtion! Hunter conceived that the ſecondary ſtages were not diſtinctive marks of ſyphilis, perhaps another diſeaſe; for upon inoculation of the matter, it did not produce the primary ſymptoms.

ſtages of it are allowed by him to be the only criterions.

Facts have been ſtated on both ſides, as well as with reſpect to mercurial frictions, and the acids, and the calm philoſopher draws from them this concluſion: that to remove the ſecondary ſtages of this diſeaſe, neither venereal frictions, that is, a mild venereal courſe, nor the ſubſtitutes for mercury, are *always* ſufficient; but that, in theſe caſes, mercury ſhould be aided by mezereon-root*, and that puſhed

* R. Mezer. dr. 2.
Aq. font, lb. 2.
Coque ad lb. 1. ſub finem coctionis, adde
Glycyrrh. incis, unc. 1.
Cola. bibat ad unc. 4. ter quaterve in die.

That is, take of
Mezereon, two drachms,
Water, two pints.
Boil to half. At the end add,
Liquorice root, one ounce.
Strain off. He is to take four ounces, or more, three, or four times a day.

Or if this quantity of mezereon be found too ſtimulant, the following form may be uſed:
R. Mezer. rad, dr. 1½.
Rad ſarſæ, unc. 2.
Coque in aq. lb. 3. ad lb. 2. Colaturæ, adde
Syr. altheæ, unc. 1.

That is, take of
Mezereon root, a drachm and a half,
Sarſaparilla, two ounces.
Boil in three pints of water to two pints.
Strain off, and add,
Syrup of marſhmallows, an ounce.

pushed to a much greater extent than in other examples. Tutò, celeritèr, et jucundè, is inapplicable, except in the first stages of this loathsome disease.

The famous Lisbon diet-drink is:

R. Rad. Sarsaparil.
Santal alb.
Santal rubr. āā, dr. 3.
Rad. glycyrr.
Mezerei āā, unc. ½,
Ligni rhodii,
Guaiaci,
Sassafras āā, unc. 1.
Antim. crud. unc. 2.
Misce, et infunde in aquæ fontanæ bullientis lb. 10, per horas 24, dein coque ad lb. 5. Colaturæ capiat a lb. 1½ ad lb. 4, quotidie.

That is, take of
Sarsaparilla,
White santal,
Red santal, equal parts, three ounces;
Liquorice,
Mezereon, equal parts, half an ounce;
Rodium,
Guaiacum,
Sassafras, of each one ounce;
Crude antimony, two ounces.
Mix these, and infuse in five quarts of boiling water, for twenty-four hours; after that, boil it to five pints; strain, and take from a pint and a half to four pints daily.

PRACTICAL OBSERVATIONS.

SECT. XXXVI.

OF ARSENIC IN THE CURE OF CANCER.

The indulgent reader will excuſe the introduction here of cancer, although not a *contagious diſeaſe*, from the ſimilarity which this has with ſome acrimonious poiſons engendered in the ſyſtem, chiefly attacking parts related to ſenſual harmonies, as the lips, tongue, breaſts, &c. which parts are the too frequent ſufferers in this moſt deadly of all human afflictions, which brings the wretched by ſlow and painful ſteps to the grave.

A few years ago, a certain Dr. Hugh Martin, a ſurgeon of one of the Pennſylvanian regiments ſtationed at Pittſburg, during the latter part of the late war, came to that city, and advertiſed to cure cancers with a medicine which he ſaid he had diſcovered in the woods, in the neighbourhood of the garriſon. As Dr. Martin had once been my pupil, ſays Dr. Ruſh, I took the liberty of waiting upon him, and aſked him ſome queſtions reſpecting his diſcovery. His anſwers were calculated to make

me believe, that his medicine was of a vegetable nature, and that it was originally an Indian remedy. He ſhewed me ſome of the medicine, which appeared to be the powder of a well dried root of ſome kind. Anxious to ſee the ſucceſs of this medicine in cancerous ſores, I prevailed upon the doctor to admit me to ſee him apply it in two, or three caſes. I obſerved in ſome inſtances, he applied a powder to the parts affected, and in others only touched them with a feather dipped in a liquid which had a white ſediment, and which he made me believe was the vegetable root diffuſed in water. It gave me great pleaſure to witneſs the efficacy of the Doctor's applications. In ſeveral cancerous ulcers the cures he performed were complete.

Anxious to diſcover a medicine that promiſed relief in even a few caſes of cancers, and ſuppoſing that all the cauſtic vegetables were nearly alike, I applied the phytolacca, or poke-root, the ſtramonium, the arum, and one, or two others, to foul ulcers, in hopes of ſeeing the ſame effects from them which I had ſeen from Dr. Martin's powder, but in theſe I was diſappointed. They gave ſome pain, but performed no cures. At length I was furniſhed by a gentleman from Pittſburg with a powder which, I had no doubt, from a variety of circumſtances, was of the ſame kind as that uſed by Dr. Martin. I applied it to a fungous ulcer, but without producing the degrees of

pain,

pain, inflammation, or difcharge, which I had been accuftomed to fee from the application of Dr. Martin's powder. After this, I fhould have fufpected that the powder was not a fimple root, had not the Doctor continued upon all occafions to affure me that it was wholly a vegetable preparation.

In the beginning of the year 1784, the Doctor died, and it was generally believed that his medicine had died with him. A few weeks after his death I procured, from one of his adminiftrators, a few ounces of the Doctor's powder, partly with a view of applying it to a cancerous fore which then offered, and partly with a view of examining it more minutely than I had been able to do during the Doctor's life. Upon throwing the powder, which was of a brown colour, upon a piece of white paper, I perceived diftinctly a number of white particles fcattered through it. I fufpected at firft that they were corrofive fublimate, but the ufual tefts of that metallic falt foon convinced me that I was miftaken. Recollecting that arfenic was the bafis of moft of the celebrated cancer powders that have been ufed in the world, I had recourfe to the tefts for detecting it. Upon fprinkling a fmall quantity of the powder upon fome coals of fire, it emitted the garlick fmell fo perceptibly as to be known by feveral perfons whom I called into the room where I made the experiment, and who knew nothing of the object of my

enqui-

enquiries. After this, with ſome difficulty I picked out about three, or four grains of the white powder, and bound them between two pieces of copper, which I threw into the fire. After the copper pieces became red hot, I took them out of the fire, and when they had cooled, diſcovered an evident whiteneſs imparted to both of them. One of the pieces afterwards looked like dull ſilver. Theſe two teſts have generally been thought ſufficient to diſtinguiſh the preſence of arſenic in any bodies; but I made uſe of a third, which has lately been communicated to the world by Mr. Bergman, and which is ſuppoſed to be in all caſes infallible.

I infuſed a ſmall quantity of the powder in a ſolution of a vegetable alkali in water for a few hours, and then poured it upon a ſolution of blue vitriol in water. The colour of the vitriol was immediately changed to a beautiful green, and afterwards precipitated.

I ſhall cloſe this paper with a few remarks upon this powder, and upon the cure of cancers and foul ulcers of all kinds.

1. The uſe of cauſtics in cancers and foul ulcers is very ancient and univerſal. But I believe arſenic to be the moſt efficacious of any that has ever been uſed. It is the baſis of Plunket's, and probably of Guy's, well known cancer-powders. The great art of applying it ſucceſsfully is, to dilute and mix it in ſuch a manner as to mitigate the vio-

lence

lence of its action. Dr. Martin's compofition was happily calculated for this purpofe. It gave lefs pain than the common, or lunar cauftic. It excited a moderate inflammation, which feparated the morbid from the found parts, and promoted a plentiful afflux of humours to the fore during its application. It feldom produced an efcar; hence it infinuated itfelf into the deepeft receffes of the cancers, and frequently feparated thofe fibres, in an unbroken ftate, which are generally called the roots of the cancer. Upon this account, I think, in an ulcerated cancer it is to be preferred to the knife. It has no action upon the found fkin. This Dr. Hall proved by confining a fmall quantity of it upon his arm for many hours. In thofe cafes where Dr. Martin ufed it to extract cancerous, or fchirrous tumours that were not ulcerated, I have reafon to believe that he always broke the fkin with Spanifh flies.

2. The arfenic ufed by the Doctor was the pure white arfenic. I fhould fuppofe, from the examination I made of the powder with the eye, that the proportion of arfenic to the vegetable powder could not be more than one-fortieth part of the whole compound. I have reafon to think that the Doctor employed different vegetable fubftances at different times. The vegetable matter with which the arfenic was combined in the powder which I ufed in my experiments, was probably nothing more than the powder of the root and berries of the

the ſolanum lethale, or deadly nightſhade. As the principal, and perhaps the only deſign of the vegetable addition was to blunt the activity of the arſenic, I ſhould ſuppoſe that the ſame proportion of common wheat flour as the Doctor uſed of his cauſtic vegetables would anſwer nearly the ſame purpoſe. In thoſe caſes where the Doctor applied a feather dipped in a liquid to the ſore of his patient, I have no doubt but his phial contained nothing but a weak ſolution of arſenic in water. This is no new method of applying arſenic to foul ulcers. Dr. Way, of Wilmington, has ſpoken in the higheſt terms to me of a waſh for foulneſſes on the ſkin, as well as old ulcers, prepared by boiling an ounce of white arſenic in two quarts of water to three pints, and applying it once or twice a day.

3. I mentioned, formerly, that Doctor Martin was often unſucceſsful in the application of his powder. This was occaſioned by his uſing it indiſcriminately in *all caſes*. In ſchirrous and cancerous tumours, the knife ſhould always be preferred to the cauſtic. In cancerous ulcers attended with a ſcrophulous or a bad habit of body, ſuch particularly as have their ſeat in the neck, in the breaſts of females, and in the auxiliary glands, it can only protract the patient's miſery. Moſt of the cancerous ſores cured by Dr. Martin were ſeated on the noſe, or cheeks, or upon the ſurface or extremities of the body.

It

It remains yet to discover a cure for cancers that taint the fluids, or infect the whole lymphatic system. This cure, I apprehend, must be sought for in diet, or in the long use of some internal medicine, or external application.

To pronounce a disease incurable is often to render it so. The intermitting fever, if left to itself, would probably prove frequently, and perhaps more speedily fatal than cancers. And as cancerous tumours and sores are often neglected, or treated improperly by injudicious people, from an apprehension that they are incurable, (to which the frequent advice of physicians "to let them alone," has, no doubt, contributed) perhaps the introduction of arsenic into regular practice as a remedy for cancers, may invite to a more early application to physicians, and thereby prevent the deplorable cases that have been mentioned, which are often rendered so by delay or unskilful management.

4. It is not in cancerous sores only that Dr. Martin's powder has been found to do service. In sores of all kinds, and from a variety of causes, where they have been attended with fungous flesh or callous edges, I have used the Doctor's powder with advantage.

SECT. XXXVII.

GENERAL INDUCTION.

From this long account of vegetable and animal poisons, which disoxygenate the blood, and from the consideration of the various remedies discovered to overcome their baneful effects, we think we are warranted to draw this general induction, that there is an analogy in their nature, and that substances containing *oxygen* are their real antidotes; and if so, the art of medicine will hereafter be built on the surest foundation, and much improvement accrue to this interesting branch of science. We conceive this part at present in its infant state, and know of no author who has before collected materials to warrant such a general conclusion. It is with extreme diffidence we have presented it before the public, and are conscious that it will meet, as other truths have, with *violent opposition*: but *truth* will always be buoyant, and however pressed down for a season, it must finally and majestically float down the ocean of time, and, if just, take its rank as a very valuable improvement.

THEORETICAL OBSERVATIONS.

SECT. XXXVIII.

OF THE MEDICINAL POWER OF OXYGEN.

In a work, entitled, Obſervations on the Uſe and Abuſe of the Cheltenham Waters, in which are included, Occaſional Remarks on different Saline Compoſitions: by J. Smith, M. D. Savilian Profeſſor of Geometry in the Univerſity of Oxford, which was printed in the year 1786. This little publication, ſays the very ingenious and learned author, was undertaken in conſequence of ſome converſations held during the courſe of this laſt ſeaſon with the proprietor of the Cheltenham water; not with any view of recommending them to the attention of the public; their increaſing reputation requiring no ſuch aid; but chiefly in order to correct ſome errors and abuſes in the diſpenſation of the waters, that had been found to be injurious both to the proprietor, and to thoſe who had occaſion for them.

However, though that was my original intention, I was neceſſarily led, as will appear, into an examination of the waters themſelves, and to

explain thoſe peculiarities in their compoſition, and that particular mode of operation, on which their medicinal efficacy principally depends.

The ſame train of thinking carried me on to an examination of other ſaline compoſitions, which notwithſtanding they might not be immediately connected with the ſubject, appeared to be of ſo much importance, as I hoped would ſufficiently apologize for the deviation; eſpecially as the few hints I had to throw out might probably induce others who were more able, to proceed in an inveſtigation that could not but prove highly inſtructive and entertaining.

After an admirable inveſtigation of the neutral ſalts, he enters upon the conſideration of *mercury* and *antimony*, and we are happy to give the public this early ſpecimen of true ſcience, and place our own countryman in the rank which he ſo juſtly merits.

Many beautiful diſcoveries, ſays Dr. Smith, have been made in the courſe of this century, and much light has, as it were, ſpontaneouſly ſprung up, and been reflected from them upon ſome of the moſt obſcure operations of nature. But if the method of induction had been ſtrictly adhered to, by which the connection between the known properties of bodies (eſpecially their mode of operation on the living ſubject) and the nature and proportional quantity of their ingredients had been regularly obſerved, inſtead of accumu-

lating

lating volumes of experiments without application, much greater improvements would have probably been made in every branch of both ſpeculative and practical knowledge; aud the medical profeſſion particularly, would have been *reſcued* out of the hands of *ignorance* and *impoſture*, into which it ſeems to be *ſinking*, and *reſtored* to its PROPER SCIENTIFIC DIGNITY.

Nothing would more effectually contribute to that end, than to extend the inquiry to the different metallic compoſitions; eſpecially thoſe of *mercury* and *antimony*, which have been all along the ſtrong holds of empiriciſm, on account of the powerfulneſs of their operation, the facility by which they may be compounded, diſguiſed, and preſerved, and the ſmall portable compaſs within which they may be comprehended.

For the philoſophical chymiſt and phyſiologiſt, from his knowledge of the various matters, whether ſalts, ſulphurs, or the different kinds of air with which thoſe metals are uſually united, would not only be enabled to direct, heighten, repreſs, and every way improve their reſpective operations more ſafely, ſucceſsfully, and extenſively than the blind empiric could ever attain to: but by reducing the whole under a few general principles, the utmoſt limits of empirical pretenſions would be clearly pointed out, and the materia medica purged of an infinity of uſeleſs preparations which, through ignorance and artifice, have been

multiplying

multiplying ever ſince the introduction of thoſe metals into uſe.

To all which might be added the great pleaſure attending a practice ſo ſcientifically conducted, in which both the diſeaſes, and the operation of the medicines adminiſtered for their removal, would be viewed in the light of ſo many natural proceſſes, and every ſtep gained by that mode of inveſtigation, conſidered as ſo much advancement in true philoſophy.

In order, however, to the making any progreſs in ſo extenſive a field, in which we may ſay with the poet,

"The night's ſo dark, ſo deep the way,"

it would be neceſſary to ſet out with all the light, all the information that can be collected from the writings of the moſt eminent analytical experimentaliſts of this and other countries.

At preſent I ſhall but barely venture to touch upon the ſubject, only by way of example; and that too rather in the form of *query* than poſitive aſſertion.

Among the general principles alluded to, may not the following be adopted?

That the metals are devoid of activity while they continue in their metallic ſtate? and that in order to their acquiring any degree of active exertion, it is neceſſary they ſhould be previouſly converted into the condition of a ſalt, by their

union

union particularly with an *acid*, either in the laboratory or the body; as without that converſion, they would be incapable of ſolution and uniform diffuſion in the fluids, or of impinging with any degree of ſtimulus upon the ſolids? but would either remain in the firſt paſſages totally inactive; or if capable of circulating, from the ſmoothneſs and diviſibility of their particles, would glide along without making any ſenſible impreſſion whatever.

We know that mercury (to which I ſhall chiefly confine my obſervations on this occaſion), when taken inwardly in its crude undivided ſtate, is found to be totally inactive, however large the quantity that is adminiſtered.

Its inactivity, however, has been ſolely aſcribed to the ſtrong attraction between its particles preventing their ſeparate exertion on the ſtomach, or abſorption farther into the conſtitution. For when the attraction is previouſly deſtroyed by the interpoſition of another ſubſtance, the mercury no longer continues in that inactive ſtate.

This objection has, at firſt view, much ſeeming ſolidity in it, but when more attentively conſidered, I preſume it will be found to be more ſpecious than ſolid. For if the mere ſeparation of its particles was alone ſufficient, activity would be the never-failing effect. And the more perfect the ſeparation, and conſequent removal of the impediment ariſing from their attraction, the higher its activity would be raiſed.

That,

That, however, is by no means found to be the case. For when the particles are separated by a substance that resists the acid, and at the same time is insoluble in the fluids of the stomach, as in the commixture of mercury and sulphur in the formation of *cinnabar* and *æthiops*, the mercury still continues, notwithstanding the separation, in a great measure inactive. And farther, the more complete the separation, the less operative is the mercury; its particles being then more thoroughly protected from the acid, by the universal interposition of those of the sulphur.

The same may be observed of the metallic part of antimony; and, indeed, more or less, of the other metallic bodies, in proportion to their degrees of commixture, or affinity with that mineral.

We find also that other substances, when mixed with mercury, have the same debilitating effect upon it, according to their influence upon the acid of the stomach. Even the common testacea, when blended with mercury, are found, by their absorbing the acid, greatly to impede its action; as in the preparation of the *mercurius alcalizatus*. And we may observe, in general, that the different mercurial preparations of the sulphureous, or testaceous, or alcalescent tribes, are now in a great measure exploded, on account of their experienced inefficacy; though the cause of that inefficacy has never, I believe, been clearly assigned.

From

From these confiderations does it not appear highly probable, that the principal advantages gained by the feparation of the particles of mercury are, partly by deftroying their mutual attraction, and partly by enlarging or unfolding their furfaces (while the whole mafs is, by the fame means, prevented from efcaping too haftily) to give the acids of the ftomach, or conftitution at large, a power over them fufficient for their converfion to a faline ftate; and that from thence their activity is derived?

Is not the probability farther heightened by the practice of the Spanifh phyficians, who adminifter the abforbent medicines as the moft efficacious for relieving thofe who are injured by the mercury in the mines?

And is it not raifed almoft to a certainty by the well known circumftance of the mercury's acquiring fo great a degree of activity, from its converfion into a faline ftate by its union with an *acid* in the laboratory, that the very trifling portion of the metal contained in a fingle grain of the compound, carries its fpecific virtue along with it, and diffufes it fo effectually all over the body, that if adminiftered only once a day for a few weeks, it is generally found to be capable of clearing the conftitution of all its poifon, however univerfally it may have been inquinated.

Granting then that mercury derives its activity from its union with an *acid*, either in the labora-

tory

tory or the body, and that ſo very inconſiderable a portion of it, when prepared in the laboratory, is found to be ſufficient for the total extirpation of the poiſon, may it not be aſked why the practice of loading the conſtitution daily with ſo great a quantity, by unction, ſhould be continued?

May not a redundancy of that heavy mineral introduced into the conſtitution, and circulating all over it, be productive of conſequences highly injurious to it?

May it not tend to unhinge the whole ſyſtem, partly by the preſſure proceeding from its own gravity, and partly by its particles attracting the acids every where, and robbing both fluids and ſolids of an eſſential ingredient of their compoſition? and is not this confirmed by the enervating effects it is known to have on thoſe who work on it?

May not the perpetual abſorption of the *acid*, and conſequent converſion of the mercury to a ſaline ſtate, while there is a ſingle particle of it remaining in the conſtitution, be the means of keeping up an unneceſſary ptyaliſm, long after the poiſon had been extirpated? or by falling on the bowels, of bringing on a violent catharſis, when the conſtitution had been ſo far reduced as to be unable to bear any ſuch evacuations?

Does not the ptyaliſm, in conſequence of that method, riſe ſometimes to an alarming height, in ſpight of the moſt careful attention: ſo as to call

for

for every means of ſuppreſſion, by opiates, inteſtinal and other evacuations; while the poor patient is all the time labouring under ſuch a multiplicity of diſtreſſes, that life itſelf is ſcarcely a ſufficient compenſation? eſpecially as, when protracted, it often brings along with it a train of calamities, the concomitants of a broken conſtitution, that, like ſo many harpies, imbitter all its comforts?

Upon the whole, then, can any reaſon leſs than that of abſolute indiſpenſable neceſſity, juſtify the continuance of a practice that ſo often gives riſe to ſuch a ſeries of calamities?

It has, indeed, been objected to the other method, that the ſaline preparations are apt, in many conſtitutions, to operate with too great violence upon the ſtomach and bowels.

But that violence may generally be prevented or ſuppreſſed, either by plentiful dilution, in the manner mentioned of the nitrous ſalt, or by combining the preparation with ſuch ingredients as are proper for allaying irritation, and at the ſame time determining its action to ſome of the principal emunctories of the body. *Of this I have had more frequent experience than uſually falls to the lot of the regular bred phyſician, occaſioned by my reading public lectures annually, for many years, in the univerſity, on anatomy and chemiſtry; and at times, for the ſake of thoſe who had choſen the medical line, on the theory and practice. And I can truly aver, that I do not recollect my ever being obliged to have recourſe*

*to the too frequently injurious method of unction, in any one instance whatever**.

That

* After a purge, the following solution is to be given in this manner:

R. Hydr. muriat, gr. 4.
Spir. vin. tenuior. unc. 2.
Solve, et solutionis detur cochleare minimum bis de die ex decoct. hordei cyatho, vel superbibat decoct. sarsaparil. lib. dimid.

R. Opii purif. gr. 10.
F. pil 5, cap. pil. 1, horâ somni sing. noct. Or,

R. Tinct. opii, gut. 25.
Aq. Cinnam. unc. $1\frac{1}{2}$.
Syr. papav. errat. dr. 1.
F. haustus noctu dormituro detur.

That is, take of
Muriated mercury, four grains,
Spirit of wine, two ounces.
Dissolve, and let a tea-spoonful of this be given twice a day in a cup of barley-water; or let him take with it half a pint of the decoction of sarsaparilla.

A pill, containing two grains of opium, is to be taken every night, or the following draught;

Take of
Tincture of opium, twenty-five drops,
Cinnamon water, an ounce and a half,
Syrup of wild poppies, one drachm.
For a draught to be taken at bed-time.

Dr. Thornton has found the following new medicine very efficacious:

R. Hydr. muriat. gr. 2.
Decoct. Cinchon. unc. 7.
Tinct. Cinchon. comp. unc. 1.
Cinchon pulv. dr. 1.
F. mist. capt. coch. larg. horâ 11. matutin. horâ 6, vesperè, et horâ somni, cum pil. opii.

That

That method may be convenient within the walls of an hofpital, or when the patient is no otherwife to be regulated than by difabling him from becoming irregular; or, finally, for thofe who, totally ignorant of the animal œconomy, and the firft elements of fcience, only know that mercury is the antidote, and that if but enough is thrown in to raife the *ptyalifm* up to a certain daily meafure, for a certain time (in which, however, the practitioners are often divided; fome making a pint, fome a quart, and fome more, the ftandard) a cure will furely be effected. Not forefeeing, or regarding the ruinous confequences to the conftitution, which might have been prevented, and the cure as furely effected, by the *thoufandth part* of the antidote adminiftered in another and more judicious manner.

Upon the whole, mercury appears to be a fimple homogeneous fluid, as infipid and inodorous, and as devoid of any ftimulating agency, as the element of water itfelf. And though it may be occafionally blended with other matters, and

That is, take of

Muriated mercury, two grains,
Decoction of bark, feven ounces,
Compound tincture of bark, one ounce,
Powder of bark, a drachm.

For a mixture of which, take a table-fpoonful at eleven, at fix, and at bed-time, with an opiate pill.

A precipitation and decompofition here take place, and the new compound has lefs virulence than the common folution, and, perhaps, the fame, or fuperior, efficacy.

feemingly

ſeemingly loſt, yet, like water, it probably continues unaltered; as on mere ſeparation, it always re-appears, in the ſame manner with water, in its own original form.

Viewing then mercury in the light in which it has been here repreſented, the queſtion ariſes, what are the qualities to which its *ſpecific virtue* is to be aſcribed?

If on a ſubject involved in ſo much obſcurity I might hazard a conjecture, I ſhould be inclined to aſcribe its virtue to its great ſpecific gravity, and its endleſs diviſibility, operating together. As of all the productions in nature, a ſubſtance ſo eminently endowed with thoſe qualities, and rendered diffuſible in the animal fluids, by its union with an acid, appears to be the beſt calculated for clearing the conſtitution of all extraneous noxious matters; provided they are to be eradicated, either by decompoſition or expulſion.

For in conſequence of its gravity, the ſaline compound muſt circulate with a conſiderable degree of momentum; and by its diviſibility, the mercury muſt accompany all the particles of the *acid*, however minutely it is diſſolved, into the remoteſt receſſes of the ſyſtem, and ſo aſſiſt them in the removal of any obſtructions that may have been formed in their way.

The mercury, therefore, is to be conſidered rather as an *auxiliary* than a *principal*; and *as merely an aſſiſtant in carrying the particles of the acid forward,* with an impetus ſufficient for preventing their

their being diſſipated, or retarded, in the courſe of the circulation.

In conformity with the hypotheſis I have now ventured to advance, and as a ſtrong confirmation of its truth, we find that the comparative efficacy of the mercurial preparations, does not depend on the quantity of mercury, but on that of the *acid* in their compoſition.

Corroſive ſublimate, for example, has conſiderably leſs mercury in a given quantity of the ſaline compound than calomel. But as it has much more of the *acid*, it is accordingly found to be the more *powerful antidote*. And it appears, from what we experience of the mercurial preparations, in general, to be highly probable that, according to their being *more or leſs charged with the acid, they would be found to prove more or leſs efficacious*; provided, always, the conſtitution was enabled to bear the ſtimulus, and but enough of the metal was left in the preparation, to anſwer the propulſive purpoſes above-mentioned.

Next to the mercurial preparations, thoſe of *antimony* are juſtly entitled to the attention of the phyſiologiſt. Not only as being the ſecond great hinge of empiriciſm; which is ever obtruding them upon the public, in a multiplicity of different diſguiſes and pretenſions that, by proper inveſtigation, might eaſily be expoſed, and the whole reduced to a few ſimple forms: but alſo on account of their own intrinſic merit. But if

we except the ſpecific virtue peculiar to mercury, which may, in the preſent ſtate of the world, be conſidered as the neceſſary inſtrument for preſerving the human ſpecies from annihilation, the antimonials ought to ſtand uppermoſt in the ſcale of utility; as their ſalutary operation extends to a greater variety of complaints, both chronical and acute, than any other metallic compoſition whatever.

In this enquiry into the principles of action of the antimonial preparations, the above doctrine will appear to be ſtrongly confirmed by its being circumſtantially illuſtrative of all the particulars of their operation.

For in the firſt place, whatever ſubſtance is known to weaken the union of the metal with an *acid*, is found to impair the action of the compound: and the calx that is inſoluble in the acid of the ſtomach, is found to have no action at all.

After the antimonials, the ſame mode of enquiry may be extended to the *other metallic compoſitions*, with great advantage. But as the nature of it has been, I hope, ſufficiently illuſtrated, by the examples I have produced from the two principal orders of ſaline compounds (the neutral and metallic ſalts), I do not propoſe to carry it any farther at preſent*.

* This may be ſaid to be the dawn of true ſcience. In the next ſection we ſhall ſee the effulgence of the brighteſt day of medicine.

SECT.

SECT. XXXIX.

THE SAME SUBJECT CONTINUED.

Aëra nunc igitur dicam, qui corpore toto
Innumerabiliter privas mutatur in horas.
Semper enim quodcunque fluit de rebus, id omne
Aëris in magnum fertur mare, qui nifi contra
Corpora *retribuat* rebus recreetque fluentis,
Omnia jam refoluta forent, et in aëra verfa.
Haud igitur ceffat gigni de rebus, et *in res*
Recidere affiduè, quoniam fluere omnia conftat.

LUCRET.

The following is an effay on the fubject of *oxygen*, read by that celebrated chemift and phyfician, Monf. Fourcroy, in Auguft, the fixth year of the republic, in the fchool of medicine at Paris, which, the year after, was publifhed in the twenty-eighth volume of the Annals of Chemiftry.

Of all the difcoveries, fays Monf. Fourcroy, which has had influence on the art of healing, fince the birth of experimental philofophy, there is none which has promifed fo many ufeful refults as that of the elaftic fluids.

I do not here intend to confine myfelf to the confideration alone of thofe feveral fubftances called gafes, and their effects on the animal œco-

nomy, a confideration which, of late, has fo much occupied the attention of the faculty, and created fo much delight by the fimplification and juftnefs it has produced in our notions, and the generalizing of facts. Nor do I mean here to confider the progreffive difcoveries of different gafes, which have been conjectured to contain great medicinal power, and this opinion afterwards as readily abandoned; nor to trace the almoft antiquated hiftory of vital air, at one time confidered as beneficial in confumptions, and, anon, as a body which could only accelerate the deftructive and fatal progrefs of that difeafe.

So long as the difcoveries of the elaftic fluids were only infulated facts, fo long as phyficians, confounded, as it were, by their fingular properties, confidered each independantly, or were only occupied to determine their refpective differences, medicine could only derive fome little improvement, fome flight change. But the moment that, by an affemblage of multiplied facts, the theory of elaftic fluids entirely altered the face of chemiftry, when by a fevere and more philofophic examination of the chemical phænomena than had ever before been made, a new and important revolution was produced, medicine, as all the other parts of natural hiftory, could not fail to receive bright and unexpected lights. Before this remarkable epoch, before thofe

thofe efforts of genius, which juftly placed Lavoifier as the firft chemift in the age, before the united labour of thofe who have trod in the fame glorious path, it was admiffible for phyficians to reft indifferent upon the improvements which accrued, or even to err in their too hafty application of this fcience to their art. But the day is now arrived which opens a new career to the whole of phyfical fcience, that thofe thick clouds, which obfcured the functions of animated bodies, are chafed away by the brightnefs of the light of pneumatic philofophy, when it cannot be difputed, but that medicine, by the acceffion it has received, has made an advance, which was in vain attempted by experimental philofophy, by mathematics, and all thofe arts which were enlifted into its fervice. I do not in the leaft hefitate to pronounce, that modern chemiftry has done more in twenty years for medicine, than all the united labours of preceding ages. Only contemplate before this period, what has been written on the motion of the blood, the blood itfelf, the nature of refpiration, on animal heat, perfpiration, digeftion, and irritability; examine the fubtle and ingenious hypothefes on thefe fubjects, which appear, at this time, fo degrading to the human reafon; let the immortal Haller be tried by this teft, whofe facts are fo valuable, but whofe hypothefes are together a mere mafs of dark and futile reafonings, and we fhall fee how much

we are indebted for the new lights thrown in by chemiſtry, and how much we have yet to expect!

It is now no longer permitted to the phyſician to remain a mute and inſenſible ſpectator to the impulſe already given to the ſcience of the animal œconomy. No profeſſional man, if he is at all intereſted in the advancement of his ſtudies, if he is at all animated with a proper zeal for the progreſs of medicine, can any longer neglect to inſtruct himſelf in the concluſions of modern diſcoveries. The cold ſtatue-like inſenſibility of ſome, the affected indifference of others, the ſneer uttered by this man, the irritated ſelf-love of the other, the attachment of mankind for the doctrines of their fathers, the hatred of novelty, prejudices of every kind, all the mean paſſions which glide into ſociety, playing their part on the theatre of civilized life, are to be found alſo in the career of ſcience; the exceſſes which theſe have produced, the pleaſantries which they give riſe to, the ſarcaſms, or epigrams, with which they arm diſcourſe, the ridicule which ſome endeavour to throw on the inventors, the epithet of innovators, of which they are prodigal, all this may retard, for ſome days, or even for ſome years, the progreſs of new ideas, but truth will overcome every obſtacle; ſhe cannot be frightened either by the clamours of envy, or the reſiſtance of prejudices, or by the oppoſition of ignorance. She is the rock againſt which the impotent

potent billows of human paſſions are broken. When ſhe ſtrikes with her bright light, ſpirits ſufficiently elevated to ſupport her ſplendour, ſhe ſoon inſpires them with the neceſſary power to proclaim her dictates with confidence, ſo as finally to eſtabliſh her rights, in vain rejected. The cry ſtill vibrating in our ears againſt the circulation of the blood and antimony, did not prevent the diſcovery of Harvey from taking rank among the number of demonſtrated truths, and antimony from being accounted one of the moſt noble of our medicines, when ſkilfully adminiſtered.

It will turn out the ſame with the new chemical diſcoveries, when applied to illuſtrate the phænomena of the animal œconomy. Its career, ſo glorioully begun, will never ſtop; every thing announces a remarkable advancement in its progreſs begun in our time, and aided by our efforts. If mean talents, lethargic apathy, or iraſcible ſelf-love, ſhall again endeavour to retard its ſteps, their oppoſition ſhall vaniſh, eſpecially by the energies of the riſing youth. Strangers to the tumultuous paſſion of envy, the new generation, ſo eager to acquire knowledge, ſhall be the witneſſes and actors in the great *medical revolution*, of which we have only ſhewed the neceſſity, and laid the foundation-ſtone. Like to thoſe great bodies, whoſe maſs and velocity carry every thing before them that comes within the ſphere of their

action,

aĉtion, obliging them to obey their movements, ſo *the revolution of chemiſtry*, after having ſhaken the very baſis of the former phyſical ſcience, will extend its influence over the whole ſcience of nature, and no part will receive a greater and quicker change than the art of healing, which forms ſo eſſential a part of natural hiſtory.

People have already laid to my account ſo many hazardous opinions, have made me ſay ſo many things, which I have never uttered, that I have thought it neceſſary to ſtate exaĉtly my PROFESSION OF FAITH, to pronounce it amidſt my brethren, and to declare to them with preciſion, my ſentiments reſpeĉting thoſe new ideas, which, in reality, ſprang from me, although they may have received ſome modifications ſince their birth. Theſe are, I do not deny it, many of them my own offspring, but adopted by too great a warmth by ſome phyſicians, who have kindly undertaken to repreſent them as their own, and introduce them too early into the world, it is not impoſſible, that deformed by ſome of theſe obliging retailers, they may have loſt ſome of their primitive features. It is time, therefore, that I recal them to their paternal ſtock, that I examine what they have acquired, or loſt, and again charge myſelf with their education, if I wiſh in the end not to expoſe myſelf to regret ever having given them birth.

At the found of the word *oxygen*, I can readily conceive the effect that this muft have on the different claffes of mankind.

One circle there is, whom the word *oxygen* affrights, becaufe they have never underftood it, and think that the fhorteft and eafieft road is to deny its exiftence.

Another, angry at a word founding ill to their ears, without formally denying the exiftence, refufe it at leaft all its properties, or thofe chemical characters, which Lavoifier and his followers have difcovered.

A third, more agitated than the reft, murmur at the brilliant part which this plays, and at the oblivion of that principle, which by the mere dint of imagination they made into fixed fire, entering into the compofition of bodies under the title of phlogifton.

A yet more numerous circle, and feemingly more temperate than the laft, has, however, all the difpofition to become the moft furious. But this did not arife before *oxygen* was introduced as a medicine, before to it was attributed the prerogative of action, and little or nothing to the bafis, to which it is found attached. Thefe, aftonifhed to fee this intruder admitted as a medicinal matter, examine every feature of its countenance, turn it on every fide, and behold nothing but a phantom, which arifes from being unaccuftomed to its prefence, and from not following its fteps

from

from its appearance in the world in the month of Auguſt, ſince which time, it has been continually claiming freſh attentions from the philoſopher.

I need ſcarce mention another circle of people filled with indifference and apathy, who take no part in this or any other novelty; this crowd, inauſpicious at firſt, ends by being ſervile, and are to be eſteemed neither as friends or foes.

In ſuch a medley, how am I, continues Monſ. Fourcroy, to conduct myſelf with prudence, with that wiſdom, with that dignity, which belongs to ſo important a ſubject?

Ought I to attack the firſt argument of my antagoniſts, and endeavour to perſuade them of the exiſtence of *oxygen*, in order to make them ſee that it poſſeſſes the moſt energetic medicinal virtues?

Ought I to aſſemble all the facts which prove that thoſe who are averſe to believe its virtues, employ it all the while they are denying its exiſtence, and hitherto without doubting of its efficacy?

Ought I to expect that thoſe men who ſo gratuitouſly, and with ſo much good will, admitted of *phlogiſton*, would admit of a real exiſtence, weighty, and capable of combination, and exhibiting effects very ſenſible on the animal œconomy?

It is, without doubt, a difficult taſk; but I feel myſelf placed under circumſtances too impe-

rious

rious not to attempt it. I feel a ſufficient hardihood not to deſpair of ſucceſs, if I can but obtain a ſhort ſilence over the prejudices and paſſions; for without flattering myſelf that I can ſpeak louder than my adverſaries, I am perſuaded that my reaſoning will be better from the goodneſs of my cauſe.

I will declare, therefore, with the pureſt ſimplicity, how the firſt ideas on this ſubject aroſe in my mind, more than fifteen years ago, what, after experience, fortified my opinions, and how far I have been able to puſh them. Nor will I conceal where they are weak, as I would not exaggerate what has ſtrength, for I have no other intereſt in view than the progreſs of ſcience.

All I have to requeſt, therefore, is a careful attention, and not to loſe the chain of facts; for the ſubject is new, and difficult, and, I doubt not, but that I ſhall be able to ſhew you a new road in Therapeutics.

When Berthollet, following at that time the footſteps of Maquer for theory, whilſt he had to purſue the firſt diſcoveries of Scheele, which he was called upon to confirm, to enlarge, and afterwards to attach in a manner ſo brilliant to the pneumatic doctrine, explained in 1779, and in 1780, the *cauſticity* of the metallic ſalts, by their greedineſs to ſeize upon the *phlogiſton* of animal bodies, it was then that he ſhewed us, that a diſſolution of corroſive, ſublimate (muriated

mercury)

mercury) in water, put in contact with flesh, was precipitated in the form of mild mercury (calomel), whilst the animal matter was rendered friable, at which time I could not fail to perceive, that what he attributed to *phlogiston*, was really due to *oxygen*, but in an inverse manner; that is to say, that the corrosive sublimate *yielded* to the animal matter its *oxygen*, instead of *taking* from it its *phlogiston*; and it was thus, in effect, that Berthollet himself explained the action of metallic salts on animal matter, after he had solemnly, in 1785, renounced the theory of *phlogiston* as an imaginary principle, which could no longer be supported after the discoveries made by Lavoisier.

It was at this epoch that I began to present in my course, as a *positive fact*, that which I had announced before only as an *hypothesis*. I then demonstrated, by experiments, that the metallic caustics, the oxyd of arsenic, the red oxyd of mercury, the grey oxyd of silver, literally burnt animal substances, that these suffered their *oxygen* to be taken from them, and hence these oxyds repassed to their metallic state.

I explained about the same period the action which grease heated has on metallic oxyds, as explanatory of mercurial ointments; for it was natural to consider, from the fat so diffused in animal bodies, as a substance very fit to throw light on the nature of the alteration which animal

mal ſubſtances experience from the action of metallic cauſtics.

Soon after I puſhed this idea ſtill farther; and when making my ſcholars obſerve, that the energy of cauſtics was nothing more than their extreme medicinal power, I began, in the years 1785 and 1786, to hint that the action of ſome other medicine might very probably ariſe from the *oxygen* which entered into their compoſition. The ſtudy of the properties of that principle, which I then was purſuing with ardour, made me behold it playing an immenſe part in chemical phænomena. Vital air, when it was precipitated from the atmoſphere, into combuſtible bodies, by the effect of combuſtion itſelf, I ſhewed it as characteriſed in its combination with burnt bodies, as a principle of their taſte and ſharpneſs, offering to the ſtudious youth the examples of charcoal, of ſulphur, of phoſphorus, almoſt inſipid, which become ſour, acrid, and even cauſtic, by the addition of *oxygen*; the examples alſo of arſenic, of copper, of mercury, of antimony, having only a weak or no action upon animal bodies in their metallic ſtate, and aſſuming the quality of irritants, purgatives, emetics, and even corroſives, according to the quantity of *oxygen* ariſing from the different pharnacentical proceſſes to which they were ſubjected.

THUS I ROSE, STEP BY STEP, FROM EXPERIMENT TO EXPERIMENT, FROM MEDITATION

TO

TO MEDITATION, TO CONSIDER THE PURGATIVE, EMETIC, STIMULANT, AND RESOLVING QUALITIES, AS THE FIRST DEGREES, OR PROGRESSIVE MARKS OF A GRADUATED MEDICAL SCALE, OF WHICH INERTIA, OR WANT OF POWER, WAS THE MINIMUM, AND CAUSTICITY DESTRUCTIVE OF ANIMAL ORGANIZATION, THE MAXIMUM.

The objections which were raiſed, ſo far from ſtopping the progreſs of theſe new ideas, only tended to accelerate their career, by the readineſs and aſſurance of the anſwer which chemical experiments afforded me.

Water, of all the bodies the moſt oxygenated, ſince it contains o. 85 parts, has only a very feeble medicinal virtue, becauſe the principle which fixes the oxygen, the o. 15 of hydrogen, by which it is ſaturated, *retains* it with too much force to allow it to act on animal matter. If this were not the caſe, inſtead of its offering to men and animals a preſent, which quenches thirſt, and ſupports exiſtence, nature would only have given in water an inflammatory and deſtructive liquor, more diſorganizing even than thoſe powerful mineral acids, of which chemiſtry has known how to produce the ſeparation of their compounds, or to make the compoſitions.

What I conceived to be the cauſe of the want of medicinal power in water, I ſimply applied to every body naturally or artificially oxygenated, which

which likewiſe did not exert, or very feebly, any medicinal power over living animal matter, although poſſeſſing the preſence of oxygen.

Thus there was gradually formed a ſecond axiom concerning the medicinal power of oxygenated ſubſtances, namely, *that theſe ſubſtances are medicines, or exert a ſenſible effect on our body, inaſmuch as they contain oxygen, and* PART MORE OR LESS READILY WITH IT *to animal matter, with which they come into contact.*

This ſecond conſideration was not leſs uſeful than the firſt, ſince it threw a great inſight upon medicinal action in general, of which we may juſtly remark, that a ſlight taſte, either pleaſant, or diſagreeable, or, in a word, that alimentary ſapidneſs is the *minimum*, and *cauſticity* the maximum.

It was this that made me ſee that the acid, or metallic cauſtics were all compriſed in the claſs of combuſtible burnt bodies, which holds the leaſt its *oxygen*, and which imparts it the moſt readily to animal matter, ſuch as the nitric acid, the oxyds of gold and ſilver, and the red oxyd of mercury.

This alone can explain how an oxydated body is active in proportion as it contains more or leſs of oxygen, how, for example, a red oxyd of mercury, which is cauſtic, is but purgative or alterative, when it is a grey or white oxyd; for it is of importance to conſider here that chemical principle, become ſo important at this time,

that the attraction of bodies in a ſtate of combination, is in the inverſe ratio of their ſaturation; that is to ſay, the more bodies, in their union, are remote from the quantity which ought to ſaturate them, the more they adhere together. Thus, the red oxyd of iron, or a ſaffron of Mars, is more active than the black oxyds of iron, or martial æthiops, becauſe that the portion of oxygen which it contains *above* its black oxyd, *adheres* leſs than that which conſtitutes the black oxyd.

This ſecond axiom contains a ſeries of propoſitions which flow ſo naturally, that never in any eſſay of medical theory, did explanation ſo clearly elucidate facts, never did light ſhine brighter on therapeutics. I will only relate ſome few of the principles of which I am ſpeaking, and they flow ſo natural, that it requires ſcarce any attention to underſtand them. So true is it, that medicinal property ariſes from the preſence of *oxygen*, and is in direct ratio of the attraction which animal matter has for that principle, and the rapidity with which it can quit the compound, of which it is a part, to unite to thoſe organized ſubſtances; that water, as being oxygenated hydrogen (hydrogen being of all bodies that which has moſt affinity to oxygen), has the weakeſt medicinal power, that the carbonic acid, where *oxygen* is retained by carbon, which has a force of retention next to hydrogen, is only ſlightly acid, and has but a ſmall medical property; that phoſphorus, which holds

holds a third rank in its affinity for *oxygen*, forms, by its combination with it, the phoſphoric acid, which is very far diſtant from the acrimony of ſulphuric acid, whoſe radical, the ſulphur, retains its *oxygen* more feebly than phoſphorus; and that the nitric acid, the moſt powerful of all the acid compounds, is united in its compoſition of azote ſaturated with *oxygen*, by a tie ſo weak, that the *oxygen* which ſeparates from it with ſo much rapidity, ſeizes almoſt inſtantaneouſly the organized bodies which it touches; ſo that, when it is concentrated, it burns and deſtroys them at the very inſtant even it comes into contact with them.

The ſame ſeries of effects, dependent upon the attraction of oxygen, is found in the metallic oxyds, and in their diſſolution. All the oxyds, formed of ſuch metals as RETAIN *oxygen* the leaſt, are violent cauſtics, as I have elſewhere ſhewn. Thoſe, on the contrary, which HOLD FIRMLY that principle, thoſe which do not permit it to be taken up by animal ſubſtances, are either little energetic, or abſolutely inactive, as are the grey oxyds of zinc, the black oxyd of iron, the oxyd of tin, &c.

However probable theſe aſſertions might appear, however in uniſon with the experience of phyſic, they would have been reckoned by me but ſimple and very probable hypotheſes, they would not have ſufficed to have formed a ſure doctrine, if I had not found out the means of

confirming

confirming them, of proving them to the ſatisfaction of men the moſt difficult to convince, by obſervations, or experiments, the moſt exact. The important diſcoveries of Berthollet of the difference of corroſive ſublimate and calomel, the former more oxygenated than the latter; and reſpecting the corroſive ſublimate, or ſuperoxygenated muriat of mercury, paſſing to the ſtate of calomel, or of ſimple muriat of mercury, when treated with an animal ſubſtance, was a ray of light; but this was only an experiment made with a dead animal ſubſtance, and I wiſhed for proofs, that the ſame thing took place in living bodies. Although it was not difficult to try the experiment with a living animal, although I believed it would turn out conformable to the opinion of Berthollet; that is to ſay, after having given ſome grains of ſuperoxygenated muriat of mercury to a dog, we ſhould have found this ſalt in the viſcera afterwards in the ſtate of mild muriat of mercury, I did not make the experiment, becauſe of its cruelty, but more ſo, becauſe we had other proofs. I have always obſerved that which Lorry has already noticed it is more than thirty years ago, that the red oxyds of iron, which is preſcribed to patients under the name of Saffron of Mars, paſſes from the inteſtines in the ſtate of a black oxyd, which tinges the fæces of that colour; which could not happen, except that the portion of *oxygen*, which is beyond the black

oxyd

oxyd, or which forms the 0,27, oxydation of the metal, is taken up by thofe organs along which it paffes; and it is too evident, to make it neceffary for a long explanation, that it arifes from that portion of *oxygen*, difengaged, or flowly abforbed in the whole length of the inteftines, whether taken up by the humours which lubricate that canal; or by the fibres themfelves, that a great part, at leaft, of their tonic, aftringent, and ftimulant effect, is to be attributed, when thefe are employed.

It has been feen a long time, that the yellow, or red, oxyds of mercury become black by the contact of animal matter, and this effect takes place in the inteftines; and it is probable, that from hence arife the globules of mercury which are faid to have been found in the cells of the bones of thofe who have made a long abufe of mercury.

The application of all the metallic cauftics, on ulcers, and cutaneous affections, does not leave any doubt refpecting the reduction of oxyds, and the paffing of *oxygen* into animal fubftances, which accompanies, determines, and explains their action. We fee it evidently in the fuming muriat of antimony, or butter of antimony, the liquid nitrat of mercury, or mercurial water, the melted nitrat of filver, or lapis infernalis, which leave upon the fcars which they form, a coating very obfervable, having the appearance, and fometimes even a metallic fplendour.

 Another

Another order of facts, which we owe to the lights already thrown upon medical practice by the pneumatic doctrine, and which comes to the support of the theory of which I speak, embraces every thing which relates to the new discoveries, whether to destroy the terrible effects of caustic poisons, or to remedy their slow ravages which they draw after them, when one has had the good fortune to escape their first dangers.

Navier, in recommending the alkaline sulphurs (the livers of sulphur) for the poison of arsenic, verdegrise, and corrosive sublimate, knew well, that in decomposing and absorbing these acrid metallic bodies, the sulphurets which were formed, had not the causticity of these poisons; but he did not know what real advantage might be derived from the natural or artificial sulphurous waters, whose hydro-sulphur, in taking away a portion of *oxygen* from the metallic oxyds, removed at the same time the cause of their poisonous acrimony; he did not know that iron alone, in an extremely fine powder, is equally proper to destroy the causticity of the metallic salts of copper, mercury, and arsenic, in taking from them, by their strong affinity for this principle, the *oxygen* which renders them caustic.

Berthollet himself, in discovering that useful property which the decoction of bark has in obviating the violent effects of an over-dose of the tartrite

tartrite of antimony and potash (tartar emetic), was, as yet, ignorant that it was in separating the *oxygen* from the oxydated metal, that the extract of bark robbed it of all its activity; and it was sometime after this discovery, that I noticed that strong tendency which the decoctions of bark have for *oxygen*. Thus, whilst researches after *counter-poisons* make, without ceasing, a progress, for the advancement of chemistry, that beautiful science carries, at the same time, its torch to illumine the obscurity of the animal functions, and of the action of remedies.

From all these happy and well authenticated effects, which I have just been relating, there manifestly appears a phænomenon, which we know to exist at the present time in a great number of chemical operations.—*Oxygen obeys its attractions; it either quits a body to convey itself into another, or it so divides itself as to make an equilibrium of two substances, of which one assumes of this principle more or less than the other.*

We employ, to produce this salutary equilibrium, matters, which not only have a greater affinity for *oxygen* than those we would wish to desoxygenate, or unburn, but which possess also the salutary property of removing their causticity, and of retaining, at the same time that burning principle with sufficient force to hinder its powerful action on our organs; that is to say, which obliges it to rest within itself, although

 oxygenated,

oxygenated, and remain in an inactive ſtate with reſpect to us.

Such is the ſimple proceſs, now ſo eaſily comprehended, by which chemiſts, in treating of corroſive ſublimate with iron, copper, tin, or antimony, withdraw from the mercury, that *oxygen* which rendered it ſo cauſtic, and infuſe into the metal which effected its decompoſition, the cauſe of all its terrible effects.

Such is the remarkable circumſtance of the participation of the *oxygen* by running mercury, which, by withdrawing it, by the acid alone of trituration, from the corroſive ſublimate, loſing at the ſame time its metallic form, ſo ſoftens the acrimony of the other, that inſtead of being a cauſtic poiſon, it is no longer any more than a ſimple purge.

Such, moreover, is that very ingenious proceſs of Monſ. Vauquelin, who forms in a few minutes martial æthops, by heating red oxyd of iron with iron filings; this laſt withdraws a portion of its *oxygen* from the red oxyd, and makes the whole paſs, by the equilibrium which is ſoon eſtabliſhed betwixt the two portions of iron, into the ſtate of one uniform black oxyd.

In the year 1790, I announced in the journal which I then managed under the title of Médècine éclairée par les Sciences, that, by the experiments which I had made, the oxygenated muriatic acid ſeemed to have the power of overcoming

coming putrid miaſms, that it therefore might be employed to deſtroy infection, and conſidered in that point of view, it would one day or other render to man the greateſt ſervices. I propoſed it to the anatomical theatres, as a ſubſtance that would prevent putrefaction, and at the ſame time I mentioned that it would ſerve to deſtroy the poiſon accidentally introduced by a cut, whilſt opening a putrid body, and I alſo propoſed it to inoculators, to try whether it poſſeſſed any power to correct the variolus poiſon, a poſition which Mr. Cruickſhank of Woolwich firſt put to the teſt, and he found, that inoculation would not ſucceed when the matter was mixed with this acid, the ſame matter which perfectly ſucceeded in every inſtance without this mixture. I foreſaw equally well, that this powerful reagent, which has, from the *oxygen* with which it is ſurcharged, an action, ſo quickly oxydating every combuſtible body, might be employed alſo to deſtroy the virus of hydrophobia, in the wounds in which it was inſerted, and although experience has not verified the aſſertion, yet to ſuch men as are well acquainted with modern chemiſtry and the action of *oxygen*, I know they readily foreſee what would be the reſult *.

It having the property to deſtroy all ſmell, I

* That *oxygen* was the general antidote to animal and vegetable poiſons, was firſt taken up by the author of Medical Extracts, and had been in print long before Monſ. Fourcroy publiſhed this paper.—Vide page 418.

resolved

refolved to try it in cancer. My friend Monf. Hallé, will eafily recollect the fuccefs of thefe trials, with a woman who had a large cancer in her breafts. We obtained an immediate change by the application of linen dipped in the liquid acid, the colour of the wound became better, the fœtor lefs offenfive, and the difcharge lefs ferous, which at firft infpired us with hopes, but in two other trials we appeared to augment her pain, and it was therefore defifted from.

It was in the year 1790, that after fpeaking in my lecture at the Lyceum of the anti-venereal power of mercury as depending upon *oxygen*, Monf. Rouffille and Vauquelin propofed to make trial of oxygenated muriatic acid upon two perfons vifibly affected with the venereal virus. But the extreme prudence with which they conducted the trial, and the inconftancy of the patients, which fo often proves an obftacle to the accuracy of experiment in the healing art, did not permit them to difcover whether it acted as an antifyphilitic, as I had predicted, but they found that the appetite was fenfibly augmented, their urine more abundant, and without colour, their fæces alfo without colour, which is at any rate fufficient to fhew that it has a powerful action throughout the whole frame.

A remarkable epocha in the annals of hiftory, the French Revolution, fo terrible in its effects in the exteriour, and fo glorious to the Republic in the interiour, foon furnifhed me with a fair opportunity

portunity of making an uſeful application of my ideas reſpecting the medicinal virtue of *oxygen.* Quickſilver became at that time exceedingly rare. I propoſed to government the practicability of ſubſtituting ſeveral oxygenous ſubſtances for the mercurial preparation as a cure for the venereal diſeaſe and the itch, which required ſo frightful a quantity of ſuch preparations in the military hoſpitals, but my advice was not followed, becauſe, without doubt, the officers of health, who ſuperintended, had too many ſcruples reſpecting the efficacy of the meaſures I propoſed, whilſt their confidence in mercurial remedies was founded upon a long experience; I therefore determined upon developing my views, and extending my ideas upon this ſubject in my public lectures, perſuaded that they would take root in the minds of my hearers, and that they would thence find that degree of acceptation and ſupport, which could alone give them the utility of which I believed them to be capable.

It was in the courſe of the fourth year, both in the School of Medicine and in the Muſeum of Natural Hiſtory, that I inſiſted more ſtrenuouſly than I had before done, upon this new doctrine, and on the advantage which promiſed to accrue from chemiſtry to the healing art.

I particularly inſiſted upon the citron ointment, the unguentum hydrargyri nitrati, of which I knew there was immenſe conſumption for the

itch.

itch. I ſhewed that the oxygenation of the lard by the oxyd of mercury and the acid of nitre, ought to be conſidered as the chief ſource of its virtues, and that it was, perhaps, poſſible to do without the mercury in that preparation; that the nitrous acid alone appeared capable of bringing the lard to that ſtate of oxydation, when it would acquire well-marked medicinal qualities, and there was every reaſon to be perſuaded, that in that ſtate, it would fulfil without mercury the conditions of the citron ointment. Monſ. Aylon, being preſent at the lecture, rapidly caught up the idea, and informed me of the project he had reſolved to try, viz. to examine into the effects of the nitric acid upon fat, and to diſcover the properties it might then poſſeſs. His firſt eſſay, conducted with a ſagacity and prudence which I knew he poſſeſſed, had a ſucceſs even beyond his expectations, and he proved that the oxygenated lard was both antipſoric and antiſyphilitic.

He employed in conjunction with it the nitric acid, which had been uſed with the ſame view by ſeveral Engliſh phyſicians after the example of their countryman Mr. Scott *, who firſt diſcovered its virtues in India. The ſucceſs of this double method of external and internal application has not been diſproved ſince, and the report of the commiſſion of the School of Medicine, who were charged to

* Vide Sect. XXXIV, page 388.

try and examine into the new experience, will evince, better than any thing elſe, how the firſt views which I had given of this ſubject have been raiſed by the care, the genius, and perſeverance of Monſ. Alyon, who, as may be well imagined, according to all former examples in medicine, has had, and will ſtill have, *obſtacles* of more than one ſort to conquer. Whilſt my effort began to produce ſome fruits in France, learned ſtrangers, ſo far from being idle contemplators of theſe new ideas, adopted them, and cheriſhed them with more eagerneſs than even the French phyſicians. The philoſophers who have already particularly diſtinguiſhed themſelves in this career, which I congratulate myſelf with having firſt opened, are Monſ. Humboldt, who combined at Berlin, in an ingenious way, the new facts of Galvaniſm *, with the efficacy of

* There is ſcarce any need to mention, that true Galvaniſm has nothing to do with the *Metallic Tractors*, the contrivance of one Dr. Perkins, an American, hence its preſent juſt appellation *Perkiniſm*, which is a rank impoſition on common ſenſe and the public. In the preſent dreadful imperfect ſtate of medicine, an eaſily deluded multitude will often be made the dupes of deſigning men. A notorious mountebank was once ſeriouſly aſked by a phyſician, "*How he could make his lies anſwer?*" he pointed to a crowd, and enquired "*How many wiſe men there* "*were among them?*" "*One out of ten,*" was the Doctor's anſwer; "*Well, then,*" ſays the other, "*give me the nine, and you* "*ſhall have the tenth.*" Theſe, in conſequence, ride in their carriages, and have their country villas, whilſt honeſt men ſtarve; but the evil of *quackery* is not *alone* the diſcouragement of an uſeful

of chemical agents upon the organs of living animals, cleared by its bright light the phœnomena attending the functions of vegetables and animals. Dr. Beddoes and Dr. Thornton, English physicians, examined and ascertained with care the action of different elastic fluids in diseases. Messrs. Rollo and Cruickshank, in studying in the same country, the nature of a malady almost unknown, although much more frequent than one would have supposed, the diabetes mellitus, assembled, the better to ascertain its nature and causes, every thing which the new discoveries in chemistry presented them for their subject. Their ingenious theory was soon confirmed by the success of the new remedies they employed. Their work, too little known in France, but with which Monf. Alyon is about to enrich the French school, is one of those scientific monuments, which proves how much assistance medicine has to expect from chemistry.

It is now evident by what a series of facts, I was led to discover in oxygenated substances, qualities which, until this period, were considered as occult, or insensible to human wisdom. Thus have I given the chain of my ideas, derived

useful body of men, but as being the hot-bed of imposition, it begets a general incredulity, brings an odium upon every one who attempts any improvements even in his own art, and as it *legally* robs the community of their money, it at the same time deprives them of what is far more valuable, their health and lives.—IS THIS EVIL NEVER TO BE CORRECTED?

from

from the new diſcoveries in chemiſtry, and endeavoured to detail ſome uſeful improvements, which may be, or have been derived, to the healing art, and which promiſe the happieſt reſult. But whilſt I am announcing with confidence the hope of a ſpeedy and glorious REVOLUTION in the healing art, I cannot refrain from expoſing to view that petulant activity, which inſtead of merely kindling genius, ſets the brain on fire, that unfledged fondneſs for innovation, which would deſtroy all that we poſſeſs, before any thing is ſet up in its place. I deprecate that ſagacity which would explain all the phœnomena of life and diſeaſe upon chemical principles. In a word, I deſire, without doubt, a REVOLUTION in the theory and practice of medicine, I invoke it with my vows, I have announced it for more than fifteen years paſt in my lectures, I have proclaimed it, one way or other, in all my works, I will aid it with all my powers, with all my faculties; but I deſire a REVOLUTION, wiſe, ſlow, and ſedate, I do not burn the ancient works with Paracelſus; I do not break any pharmaceutical veſſels; I do not proſcribe all former knowledge; on the contrary, I would preſerve all that does exiſt, and would even acknowledge that I prefer an empirical practice to the preſent infancy of chemical medical ſcience. For there are men who deſire to build an edifice * before they have col-

* Vide note *, page 461 of this volume.

lected

lected the materials. It is, doubtlefs, that the animal fyftem in which *oxygen* plays fo great a part, may be in fault from either too much or too little of this animating principle; that at the fame time it is the fource of animal heat, it is alfo of irritability, and vital and mufcular motion; that in applying it either internally or externally, whether in the form of air or otherwife, it, in general, excites the action of life; that we ought to admit of two claffes of powerful remedies, the *oxygenating* and the *difoxygenating*, that the firft augments all the activity, the heat and circulation, the force and mobility of the fyftem, whilft the fecond retards all thefe circumftances; that often in the prudent empiricifm of good practitioners, which fupplies the defect of philofophic principles, the remedies prefcribed, act according to one or other of thefe powers. But if thefe affertions, which appear fo well founded, due to modern difcoveries in chemiftry; if this falutary art can already promife itfelf more important affiftance, and a more fteady light than has yet guided it, how many things has it not ftill to defire? How many important problems has it not to propofe to chemiftry? How many folutions of difficulties has it not to expect, in order for medicine to abandon the path it has hitherto followed, in order to confider all its old foundations as fo many errors, and fo many chimeras? What a diftance there is yet between the firft truth which

which we poſſeſs, and that ſyſtem of facts which is neceſſary for the formation of a complete doctrine, an entire new ſyſtem of medicine!

Thus the impulſe which I have announced has occurred: and there is no danger that it will either be ſtopped or diminiſhed. The only obſtacle which this MEDICAL REVOLUTION can experience, ariſes from the fear of its proceeding with too much rapidity, and from its being injudiciouſly accelerated, by the too fertile imagination of too ardent minds. Scarcely have we explained ſome few of the functions of the animal œconomy, ſcarcely have we made ſome applications of the new pneumatic diſcoveries, ſcarcely have we entered on the analyſis of ſome of the principal fluids in the human body, and yet there are men who have attempted to claſs diſeaſes according to the chemical ſtate of the fluids, and to form a *new noſology* *. It has been propoſed to arrange

* Fourcroy here probably alludes to a very crude work publiſhed by Monſ. Baumes, who divides diſeaſes into five claſſes;

1. *Diſeaſes of Oxygenation* (les Oxigeneſès.)—In theſe the oxygen is either ſuperabundant, or deficient. To the former (les ſuroxygéneſès) belong all inflammations. Theſe ariſe from cold, in this manner: the air is greatly condenſed by cold; and conſequently, during each act of inſpiration, more oxygen is taken into the lungs than in temperate, or warm weather. As proofs of the validity of the hypotheſis, the author mentions, that the blood of animals, which are made to breathe pure oxygen gas, coagulates much ſooner than that of animals which alone breathe common air; and in ſeveral patients to whom it was adminiſtered, that fluid, the blood, exhibited

arrange diseases according to the excess or deficiency of hydrogen, azote, oxygen, or carbon. That which may happen is confounded with what is already discovered; it might be said, that such men, calculated to create theories, injure the science

hibited signs of imflammation. Catarrh differs from inflammation only in a degree; and, therefore, oxygenated muriatic acid gas occasions cough and catarrh. The maximum of combustion, or inflammation, is when the part is too greatly oxygenated, that is, when the inflammation passes to gangrene. Spasmodic affections, according to him, greatly resemble inflammation. There are weaker degrees of suroxygenation: but what appears singular is, that chronic spasms belong to the diseases of disoxygenation, and diabetes to those of suroxygenation.

In atonic complaints particular acids and oxyds are formed, which become true morbid causes. From Bonhomme it appears, the rickets arise partly from the generation of an acid, which is similar to the oxalic acid, partly from the deficiency of phosphoric acid in the bones. Phosphat of lime, and phosphat of natron, are therefore the true specifics for this disorder. In scrophula there is a superoxygenation, and in scurvy a disoxygenation of the serum. In chlorosis there is a tendency to acidification in the stomach and secreting vessels.

2. *Diseases of Calorification* (les Calorinèses.)—All active hæmorrhagies, congestions, and ebullitions, belong to the diseases called by the author surcalorinèses; the diseases of debility to the descalorinèses.

3. *Diseases of Hydrogenisation* (les Hydrogenèses.)—To this belong almost all autumnal complaints, bilious fevers, and intermittents; for the proportion of oxyen in the atmosphere is diminished by the co-operation of heat and azote. The carbonic acid is evolved in smaller quantity from the lungs in warm as in cold weather. The unhealthiness of marshy ground arises from hydro-carbonic acid gas; therefore hydrocarbon is accumulated in the system, and it shews itself in an overflow

ſcience of medicine, by a premature application of their opinions, and by their hypothetical reſults, of which they are not ſufficiently qualified to make a prudent and reſerved uſe.

The only remedy which I know, capable of correcting

overflow of bile. This is the reaſon why the liver is affected in all diſeaſes of warm climates. According to the opinion of Dr. Beddoes, a mixture of hydrogen gas with atmoſpherical air is a ſoft anodyne. Hydro-carbonate, mixed with common air, in the proportion of one-tenth to one-fourth, occaſioned giddineſs and fainting. *Flatus*, which is either carbonated hydrogen gas, or ſulphurated hydrogen, operates in the ſame manner in the inteſtines of people who have great nervous ſenſibility. In theſe diſeaſes the heat augments to an uncommon degree, becauſe the blood paſſes much ſooner to the ſtate of venous blood, on account of the great quantity of hydrocarbon with which the human body is loaded.

Agreeably to theſe premiſes, the author attempts an explanation of the principal phenomena of fever, and its periodical returns.

4. *Diſeaſes of Azotefaction* (les Azoténèſes.)—A ſuperabundance of azote in the ſyſtem gives birth to putrid diſeaſes. Deficient azotization is ſimilar in its effects to the atonic ſuper-oxygenation. The author thinks, that azotic gas has the power of diſſolving miaſma: that ſuperazotization is the effect of fever, with this difference, that in inflammatory fevers it does not occur until the end of the fever, but in thoſe of a putrid nature it occurs ſooner, and in a greater degree. He is alſo of opinion, that children have very little diſpoſition to putrid diſeaſes, becauſe they contain little azote. But he here ſeems to forget, that the confluent ſmall-pox and the putrid ſore throat, and aphthæ with putrid ſymptoms, are frequent diſeaſes of children. The indications of cure in this diſeaſe are to oxygenate the human frame.

5. *Diſeaſes of Phoſphorization* (les phoſphorenèſes.)—To this claſs belong, according to the author, oſſification of ſoft parts, and

correcting this evil, is to ſtate with preciſion the point to which *pneumatic medicine* has ariſen, and to prevent the confounding that which is only probable with that which is certain. Thus much I hope I have accompliſhed. My object having been to ſhew what is certain, what is likely to be diſcovered, and what is not yet

and rickets. The firſt ariſes when the phoſphat of lime is depoſited in ſoft parts, and the ſecond from the deficiency of the phoſphat of lime. Woolaſton found the gouty depoſitions were formed of lithic acid and natron; a diſcovery which Hermſtadt had alſo in part made.

From this view of the ſubject, our readers will eaſily be able to judge of the ſpirit with which the whole work is conducted. The Theraputico-pharmaceutical Chemiſtry concludes the whole. From this part we ſhall give only a few ſketches.

1. *Oxygenating Medicines.*—All theſe are diſoxygenated in the human frame, but with this difference, that ſome loſe their oxygen more quickly than others. In this way the oxyds of iron and quickſilver operate on our internal viſcera, and thoſe of lead and ſilver on our internal ſurface. The acids alſo loſe their oxygen in the ſyſtem; and to this cauſe are to be referred their various medicinal properties. Vegetable diet ſuroxygenates, and animal food diſoxygenates, the body. Spalding obſerved, that he conſumed the air of the diving-bell much ſooner after animal, than after vegetable food.

2. *Hydrogenating Medicines*—Moiſt atmoſphere, bodily reſt, fiſh, fat meat, eggs, and hyro-ſulphurs, load the body with hydrogen.

3. *Azotinating Medicines.*—The principal remedies of this claſs are animal food, and all diſoxygenating remedies. The diſazotinating remedies are vegetable diet and ſuroxygenating medicines.

4. *Phoſphorating Remedies.*—Theſe are phoſphorus, and phoſphoric acid, phoſphat of lime, and phoſphat of natron.

known:

known*: and in doing this, I truſt, I ſhall have ſtimulated, by the relation of great and beautiful experiments, more labourers than there are at preſent to illuſtrate this field, which promiſes ſuch an abundant harveſt.

SECT. XXXIII.

THE CONCLUSION.

It at firſt ſight appears a ſubject of great difficulty to ſay why poiſons exiſt in the plan of a benevolent and all-powerful Deity; but upon ſerious reflection, it will appear that this ariſes from having very narrow and contracted views of Nature. Proud ſelf-ſufficient mortals conceive that every thing was created for their uſe alone. But as Pope beautifully ſays:

Has God, proud man! work'd ſolely for thy good,
Thy joy, thy paſtime, thy attire, thy food?
Who for thy table feeds the wanton fawn,
For him as kindly ſpreads the flow'ry lawn:
Is it for thee the lark aſcends and ſings?
Joy tunes his voice, joy elevates his wings.
Is it for thee the linnet pours his throat?
Loves of his own, and raptures ſwell the note.
The bounding ſteed you pompouſly beſtride,
Shares with his lord the pleaſure and the pride.
Is thine alone the ſeed that ſtrews the plain?
The birds of heav'n ſhall vindicate their grain.
Thine, the full harveſt of the golden year?
Part pays, and juſtly, the deſerving ſteer:
The hog, that ploughs not, nor obeys thy call,
Lives on the labours of this lord of all.
Know, *Nature's children* ſhall divide her care;
The fur that warms a monarch, *warm'd a bear:*
While man exclaims, "See all things for my uſe!"
"*See man for mine!*" replies a *pamper'd gooſe*;
And juſt as ſhort of reaſon he muſt fall,
Who thinks all made for one, not one for all.

Upon

Upon a wider ſurvey of Nature, we find that myriads of created beings are all equally the object of parental care, and have the proper food aſſorted to each. Hence, each vegetable has its peculiar devourers, and the powers of digeſtion are proportioned. Hence the meadow-ſweet is not eaten by the ox, when to the bleating goat it is delicious food. Hence the hemlock, which is death to the cow, is food for the goat tribe. Hence the aconite, or monkſhood, which kills the ſwine, may be given to horſes with impunity, and the parſley, which deſtroys immediately a parrot, is given to fatten pigs; and pepper, the ſmalleſt quantity of which will deſtroy a pig, is forced down the throat of young turkeys, producing the greateſt advantage. Thus Nature, with equal eye, watches over the whole creation; and if the vegetable and animal kingdoms are productive of poiſons, ſhe has given *minerals* as their antidote, leaving it to reaſon to make out the diſcovery.

Here then do I ſet bounds to my deſign. I have preſented my readers with a variety of facts of an intereſting nature, ſufficient to enable them to form an idea of thoſe pleaſures which reſult from the contemplation of the animal œconomy. But this contemplation would prove fruitleſs, did it not lead us inceſſantly to ſeek a knowledge of

 the

the Deity, whilſt we ſurvey thoſe works in which His wiſdom, goodneſs, and power, are diſplayed with ſuch tranſcendant luſtre. He does not impart to us the knowledge of Himſelf directly, for that is not the plan He has choſen; but He has commanded the fabric of our bodies to proclaim His exiſtence, that He may thus make Himſelf known to us. He has endued us with faculties ſuſceptible of this divine language, and has raiſed up men whoſe ſublime genius explores their beauties, and who become their interpreters. Impriſoned for a while in a *ſmall obſcure planet*, we only enjoy ſuch a portion of light as is ſuitable to our preſent condition; let us wiſely improve each glimmering ray reflected upon us, nor loſe the ſmalleſt beam: let us continually advance in this effulgent light! A time will come when we ſhall derive all light from the Eternal Source of Light; and inſtead of contemplating the Divine Architect in the *work* of His *hands*, we ſhall then contemplate the *work* itſelf in the Omnipotent Creator. "*We now ſee things obſcurely, and as through a glaſs darkly*; *but we ſhall then ſee face to face.*"

APPENDIX.

A

GENERAL POSOLOGICAL TABLE.

		DOSES. Common.	Large.
ACETUM Scillæ	*Vinegar of Squills*	gtt. 10.—	gtt. 50.
Acidum muriaticum	*Muriatic Acid*	gtt. 15.—	gtt. 40.
——— vitriolicum dilutum	*Diluted Vitriolic Acid*	gtt. 10.—	gtt. 30.
Æther vitriolicus	*Vitriolic Æther*	gtt. 10.—	gtt. 100.
Aloe ſocotrina	*Socotrine Aloes*	gr. 15.—	ſcr. 1.
Alumen	*Alum*	gr. 6.—	gr. 12.
Ammonia præparata ...	*Prepared Ammonia*	gr. 5.—	ſcr. 1.
Ammoniacum	*Gum Ammoniacum*	gr. 10.—	gr. 15.
Antimonium	*Crude Antimony*	ſcr. 1.—	dr. 1.
——— calcinatum	*Calcined Antimony*	gr. 15.—	ſcr. 2.
——— tartariſatum	*Tartariſed Antimony*	gr. 1.—	gr. 6.
——— vitrificatum	*Vitrified Antimony*	gr. 2.—	gr. 10.
Aqua ammoniæ	*Water of Ammonia*	gtt. 10.—	gtt. 30.
——— acetatæ.	*Water of acetated Ammonia*	dr. 2.—	dr. 6.
—— anethi	*Dill-ſeed Water*	un. 1.—	un. 2.
—— calcis	*Lime Water*	un. 4.—	lb. ½.
—— cinnamomi	*Cinnamon Water*	un. 8.—	un. 4.
—— fœniculi	*Fennel Water*	un. 2.—	un. 4.
—— kali	*Water of prepared Kali*	gtt. 20.—	gtt. 30.
——— puri	*Water of pure Kali*	gtt. 10.—	gtt. 30.
—— menthæ piperitidis	*Peppermint Water*	un. 2.—	un. 4.
—— pimento	*All-ſpice Water*	un. 2.—	un. 4.
—— pulegii	*Pennyroyal Water*	un. 2.—	un. 4.
—— roſæ	*Roſe Water*	ad libitum.	
Arabicum Gummi	*Gum Arabic*	dr. 1.—	dr. 2.
Aſafœtida	....	gr. 10.—	ſcr. 1.
Balſamum canadenſe	*Canada Balſam*	gr. 15.—	gr. 30.
——— copaivæ	*Balſam of Copaiva*	gtt. 20.—	gtt. 40.
——— peruvianum ...	*Balſam of Peru*	gr. 6.—	gr. 25.
——— tolutanum	*Balsam of Tolu*	ſcr. 1.—	dr. 1.

Calomelas

		DOSES. Common.	Large.
Calomelas	*Calomel*	gr. 3.—gr.	10.
Camphora	*Camphor*	gr. 3.—fcr.	1.
Cantharis	*Cantharides*	gr. ¼.—gr.	4.
Cardamomum	*Cardamom Seeds*	gr. 5.—gr.	10.
Cafcarilla	*Cafcarilla Bark*	fcr. ½.—dr.	1.
Caftoreum	*Caftor*	gr. 3.—fcr.	1.
Catechu		gr. 15.—fcr.	2.
Chamœmelum	*Camomile*	fcr. ½.—dr.	1.
Cicuta	*Hemlock*	gr. 5.—fcr.	1.
Cinchona	*Peruvian Bark*	fcr. 1.—dr.	2.
Colomba		gr. 10.—fcr.	1.
Confectio aromatica	*Cordial Confection*	gr. 15.—fcr.	2.
——— opiata	*Confection of Opium*	gr. 5.—fcr.	1.
Conferva abfinthii maritimi	*Conferve of Sea Wormwood*	dr. 2.—un.	½.
——— ari	*Conferve of Cuckow-pint*	fcr. 1.—dr.	1.
——— corticis aurantii	*Conferve of Orange Peel*	ad libitum.	
——— cynofbati	*Conferve of Hips*	ad libitum.	
Conferva lujulæ	*Conferve of Wood-forrel*	dr. 4.—un.	1.
——— pruni fylveftris	*Conferve of Sloes*	dr. 1.—dr.	3.
——— rofæ rubræ	*Conferve of Red Rofes*	dr. 2.—un.	1.
——— fcillæ	*Conferve of Squills*	fcr. 1.—dr.	1.
Contrayerva		gr. 10.—dr.	1.
Coriandrum	*Coriander Seeds*	fcr. 1.—dr.	1.
Cornu cervi uftum	*Burnt Hartshorn*	dr. ½.—dr.	2.
Creta	*Chalk*	gr. 15.—fcr.	1.
Decoctum cinchonæ	*Decoction of Peruvian Bark*	un. 2.—un.	6.
——— cornu cervi	*Decoction of Hartfhorn*	un. 4.—lb.	½.
——— hordei	*Simple Decoction of Barley*	un. 4.—lb.	½.
——— compofitum	*Compound Decoction of Barley*	un. 4.—lb.	½.
——— farfaparillæ	*Simple Decoction of Sarfaparilla*	un. 4.—lb.	½.
——— compofitum	*Compound Decoction of Sarfaparilla*	un. 4.—lb.	½.
——— ulmi	*Decoction of Elm*	un. 4.—lb.	½.
Digitalis	*Fox-glove*	gr. ½.—gr.	2.
Elaterium	*The infpiffated juice of the Wild Cucumber*	gr. ½.—gr.	3.
Electuarium caffiæ	*Electuary of Caffia*	dr. 1.—dr.	6.
——— fcammonii	*Electuary of Scammony*	fcr. 1.—dr.	1.
——— fennæ	*Electuary of Senna*	dr. ½.—dr.	4.
Extractum cacuminis geniftæ	*Extract of Broom Tops*	fcr. 1½.—dr.	1½
——— cafcarillæ	*Extract of Cafcarilla*	gr. 10.—fcr.	1½.

Extractum

		DOSES. Common.	Large.
Extractum chamœmeli	*Extract of Camomile*	gr. 10.—	ſcr. 2.
———— cinchonæ	*Extract of Peruvian Bark*	gr. 10.—	ſcr. $1\frac{1}{2}$.
———————— cum reſinâ	*Extract of Bark with the Reſin*	gr. 10.—	ſcr. $1\frac{1}{2}$.
———— colocynthidis compoſitum	*Compound Extract of Bitter Apple*	gr. 5.—	gr. 25.
———— gentianæ	*Extract of Gentian*	gr. 10.—	ſcr. $1\frac{1}{2}$.
———— glycyrrhizæ	*Extract of Liquorice*	dr. 1.—	dr. 4.
———— hæmatoxyli	*Extract of Logwood*	gr. 10.—	gr. 2.
———— hellebori nigri	*Extract of Black Hellebore*	gr. 2.—	gr. 10.
———— jalapii	*Extract of Jalap*	gr. 10.—	ſcr. 1.
———— papaveris albi	*Extract of White Poppies*	gr. 1.—	gr. 1.
———— rutæ	*Extract of Rue*	gr. 10.—	ſcr. 5.
———— ſabinæ	*Extract of Savin*	gr. 10.—	ſcr. $1\frac{1}{2}$.
———— ſennæ........	*Extract of Senna*	gr. 10.—	ſcr. $1\frac{1}{2}$.
Ferri rubigo	*Rust of Iron*	gr. 6.—	ſcr. $1\frac{1}{2}$.
Ferrum ammoniacale	*Ammoniacal Iron*	gr. 2.—	gr. 10.
——— tartariſatum	*Tartarized Iron*	gr. 2.—	gr. 10.
——— vitriolatum	*Vitriolated Iron*	gr. 1.—	gr. 6.
Filix	*Male Fern Root*	ſcr. $1\frac{1}{2}$.—	un. $\frac{1}{2}$.
Flores benzoes	*Flowers of Benzoin*	gr. 10.—	ſcr. 1.
——— ſulphuris	*Flowers of Sulphur*	ſcr. 1.—	ſcr. $1\frac{1}{2}$.
Gambogia	*Gamboge*	gr. 2.—	gr. 12.
Geniſta	*Broom Tops*	ſcr. 1.—	dr. 1.
Gentiana	*Gentian*	gr. 10.—	dr. 1.
Ginſeng	....	gr. 10.—	dr. 1.
Glycyrrhiza	*Liquorice Root*	dr. 4.—	dr. 6.
Guaiacum	....	ſcr. $1\frac{1}{2}$.—	dr. 1.
Gummi reſina	*Gum-reſin*	gr. 6.—	ſcr. $1\frac{1}{2}$.
Hæmatoxylum	*Logwood*	gr. 10.—	dr. 1.
Helleborus niger	*Black Hellebore*	gr. 1—	gr. 5.
Hydrargyrus	*Quickſilver*	un. $\frac{1}{2}$.—	un. 4.
———— acetatus	*Acetated Quickſilver*	gr. 1.—	gr. 10.
———— calcinatus	*Calcined Quickſilver*	gr. $\frac{1}{2}$.—	gr. 2.
———— cum cretâ	*Quickſilver with Chalk*	gr. 5.—	ſcr. 1.
———— muriatus ...	*Muriated Quickſilver*	gr. $\frac{1}{8}$.—	gr. 1.
———— cum ſulphure	*Sulphurated Quickſilver*	ſcr. 1.—	dr. 1.
———— ſulphuratus ruber	*Red ſulphurated Quickſilver*	gr. 10.—	ſcr. 1.
———— vitriolatus	*Vitriolated Quickſilver*	gr. $\frac{1}{2}$.—	gr. 4.

		DOSES. Common.	Large.
Infusum gentianæ compositum	Compound Infusion of Gentian	un. 2.—un.	4.
——— rosæ	Infusion of Roses	un. 2.—lb.	½.
——— sennæ	Simple infusion of Senna	un. 2.—un.	4.
——— sennæ tartarisatum	Tartarised infusion of Senna	un. 2.—un.	4.
Ipecacuanha	....	gr. 10.—scr.	1.
Iris	Florentine Orris	scr. 1.—dr.	1.
Jalapium	Jalap	gr. 7.—scr.	½.
Juniperus	Juniper Berries	scr. 1.—dr.	1.
Kino	....	gr. 10.—scr.	1½.
Kali præparatum	Prepared Kali	gr. 8.—scr.	1.
—— acetatum	Acetated Kali	scr. 1.—dr.	1.
—— tartarisatum	Tartarised Kali	dr. 2.—dr.	6.
—— vitriolatum	Vitriolated Kali	dr. 2.—dr.	6.
Lac ammoniaci	Milk of Ammoniacum	dr. 2.—un.	1.
—- amygdalæ	Milk of Almonds	un. 2.—un.	6.
Liquor volatilis cornu cervi	Volatile Liquor of Hartshorn	scr. 1½.—dr.	2.
Magnesia alba	White Magnesia	scr. 1.—dr.	2.
——— usta	Burnt Magnesia	scr. 1½.—dr.	1.
——— vitriolata	Vitriolated Magnesia	dr. 2.—dr.	6.
Manna	....	un. ½.—un.	2.
Mel acetatum	Acetated Honey	dr. 1.—dr.	2.
—— rosæ	Rose Honey	dr. 1.—dr.	2.
—— scillæ	Squill Honey	scr. 1⅛.—dr.	2.
Millepeda	Woodlice	dr. 1.—dr.	3.
Mistura camphorata	Camphorated Mixture	un. 2.—un.	4.
——— cretacea	Chalk Mixture	un. 2.—un.	4.
——— moschata	Musk Mixture	dr. 4.—un.	2.
Mucilago amyli	Mucilage of Starch	dr. 1.—un.	1.
——— arabici gummi	Mucilage of Gum-arabic	dr. 1.—un.	1.
——— seminis cydonii mali	Mucilage of Quince-seed	dr. 1.—un.	1.
——— tragacanthæ	Mucilage of Tragacanth	dr. 1.—un.	1.
Myrrha	Myrrh	gr. 10.—scr.	1½.
Natron præparatum	Prepared Natron	gr. 10.—scr.	1½.
——— tartarisatum	Tartarised Natron	dr. 4.—un.	1.
——— vitriolatum	Vitriolated Natron	dr. 6.—un.	1.
Nitrum purificatum	Purified Nitre	gr. 5.—scr.	1.

Oleum

		DOSES. Common.	Large.
Oleum amygdalæ	*Oil of Almonds*	dr. 4.—un.	1.
—— juniperi baccæ ...	*Oil of Juniper-berries*	gtt. 2 —gtt.	10.
—— lavendulæ	*Oil of Lavendar*	gtt. 1.—gtt.	5.
—— lini	*Oil of Linseed*	dr. 4.—un.	1.
—— olivæ	*Oil of Olives*	dr. 4 —un.	1.
—— ricini	*Castor Oil*	dr. 2.—un.	1.
—— sinapeos	*Oil of Mustard*	dr. 4.—un.	1.
Opium purificatum	*Purified Opium*	gr. 1½.—gr.	2.
Ostreorum testæ	*Oyster-shells*	scr. 1.—dr.	1½.
Oxymel cochici	*Oxymel of Colchicus*	scr. 1.—scr.	1½.
—— scillæ	*Oxymel of Squills*	scr. 1½.—dr.	1.
Pilula aloes composita ...	*Compound Pills of Aloes* ...	gr. 10.—scr.	1.
—— cum Myrrhâ	*Pills of Aloes with Myrrh*	gr. 6.—gr.	18.
—— galbani composita	*Compound Galbanum Pills* ...	gr. 10.—scr.	1½.
—— hydrargyri	*Quicksilver Pills*	gr. 6.—scr.	1.
—— opii	*Opium Pills*	gr. 2.—gr.	8.
—— scillæ	*Squill Pills*	gr. 10.—scr.	1.
Pimento	*All-spice*	gr. 5.—scr.	1.
Pulvis aloes cum canellâ	*Aloetic Powder with canella*	gr. 10.—scr.	1.
—— cum ferro ...	*Aloetic Powder with Iron* ...	gr. 8.—gr.	18.
—— cum guaiaco	*Aloetic Powder with Guaiacum*	gr. 10.—scr.	1.
—— antimonialis	*Antimonial Powder*	gr. 3.—gr.	6.
—— aromaticus	*Aromatic Powder*	gr. 5.—scr.	1.
—— e chelis cancrorum compositus	*Compound Powder of Crab's Claw*	scr. 1½.—dr.	1.
—— contrayervæ compositus	*Compound Powder of Contrayerva*	gr. 15.—scr.	1½.
—— cretæ compositus ...	*Compound Powder of Chalk*	gr. 10.—scr.	1.
—— compositus cum opio	*Compound Powder of Chalk, with Opium*	gr. 10.—scr.	2.
—— ipecacuanhæ compositus	*Compound Powder of Ipecacuanha*	gr. 18.—scr.	1½.
—— Myrrhæ compositus	*Compound Powder of Myrrh*	gr. 15.—scr.	1½.
—— opiatus	*Opium Powder*	gr 5.—scr.	1.
—— scammonii	*Compound Powder of Scammony*	gr. 10.—scr.	1.
—— compositus cum aloe	*Powder of Scammony with aloes*	gr. 5.—gr.	10.
Pulvis scammonii cum calomelane	*Powder of Scammony with Calomel*	gr. 8.—gr.	16.
—— sennæ compositus ..	*Compound Powder of Senna*	scr. 1.—scr.	2.
—— tragacanthæ compositus	*Compound Powder of Tragacanth*	scr. 1.—dr.	1.
Pyrethrum	*Pellitory of Spain*	gr. 1.—gr.	6.

Quassia

		DOSES. Common.	Large.
Quaffia	Quaffy Wood	gr. 5.—fcr.	1.
Quercus	Oak Bark	gr. 6.—fcr.	1.
Raphanus rufticanus	Horfe-radifh	fcr. 1.—dr.	1.
Rhei	Rhubarb	gr. 15.—fcr.	2.
Ruta	Rue	gr. 15.—fcr.	1.
Sal ammoniacus	Sal Ammoniac	gr. 8.—fcr.	1.
— cornu cervi	Salt of Hartfhorn	gr. 10.—fcr.	1.
— fuccini purificatus	Purified Salt of Amber	gr. 5.—gr.	15.
Sapo	Soap	fcr. 1½.—dr.	4.
Sarfaparilla		fcr. 1.—fcr.	1½.
Saffafras		fcr. 1.—dr.	1.
Scammonium	Scammony	gr. 5.—fcr.	1.
Scilla exficcata	Dried Squills	gr. 1.—gr.	3.
—— recens	Frefh Squills	gr. 5.—gr.	10.
Scordium	Water-germander	fcr. 1.—dr.	1.
Seneka		fcr. 1.—fcr.	2.
Senna		fcr. 1.—dr.	1.
Serpentaria		gr. 10.—fcr.	2.
Simarouba	Simarouba Bark	gr. 10.—fcr.	1½.
Sinapi	Muftard-feed	dr. 1.—dr.	3.
Spermaceti		fcr. 1.—dr.	1.
Spigelia	Indian Pink	gr. 10.—fcr.	1.
Spina cervinæ	Buckthorn	fcr. 1½.—dr.	2.
Spiritus ætheris vitriolici	Vitriolic Spirit of Æther	gtt. 20.—gtt.	60.
———— vitriolici compofitus	Compound Spirit of vitriolic Æther	gtt. 20.—gtt.	60.
———— nitrofi	Nitrous Spirit of Æther	gtt. 20.—gtt.	60.
—— ammoniæ	Spirit of Ammonia	fcr. 1.—fcr.	2.
———— compofitus	Compound Spirit of Ammonia	fcr. 1½.—dr.	1.
———— fœtidus	Fœtid Spirit of Ammonia	fcr. 1.—fcr.	2.
———— fuccinatus	Succinated Spirit of Ammonia	gr. 10.—fcr.	1.
—— anifi compofitus	Compound Spirit of Aniseed	dr. 1.—dr.	4.
—— carui	Spirit of Carraway	dr. 1.—dr.	4.
—— cinnamomi	Spirit of Cinnamon	dr. 1.—dr.	4.
—— juniperi compofitus	Compound Spirit of Juniper	dr. 1.—dr.	4.
—— lavendulæ	Spirit of Lavender	dr. 1.—dr.	4.
———— compofitus	Compound Spirit of Lavender	fcr. 1½.—dr.	2.
—— menthæ piperitidis	Spirit of Peppermint	dr. 1.—dr.	3.
———— fativæ	Spirit of Spearmint	dr. 1.—dr.	4.
—— nucis mofchatæ	Spirit of Nutmeg	dr. 1.—dr.	4.

Spiritus

		DOSES. Common.	Large.
Spiritus pimento	*Spirit of Pimento*	dr. 1.—	dr. 3.
—— pulegii	*Spirit of Pennyroyal*	dr. 1.—	dr. 3.
—— raphani compoſitus	*Compound Spirit of Horſe-radiſh*	dr. 1.—	dr. 3.
Spongia uſta	*Burnt Sponge*	ſcr. 1.—	dr. 1.
Stanni pulvis	*Powder of Tin*	dr. 1.—	dr. 6.
Styrax	*Storax*	gr. 10.—	ſcr. 1.
Succinum præparatum	*Prepared Amber*	ſcr. 1½.—	dr. 1.
Succus aconiti ſpiſſatus	*Inſpiſſated juice of Henbane*	gr. 1.—	gr. 4.
—— baccæ ſambuci ſpiſſatus	*Inſpiſſated Juice of Elder-berry*	un. ½.—	un. 2.
—— cicutæ ſpiſſatus	*Inſpiſſated Juice of Hemlock*	gr. 2.—	gr. 10.
—— cochleariæ compoſitus	*Compound Juice of Scurvy-graſs*	un. 2.—	un. 6.
—— ribris nigri	*Inſpiſſated Juice of Black Currant*	un. ½.—	un. 2.
Sulphur antimonii præcipitatum	*Precipitated Sulphur of Antimony*	gr. 2.—	gr. 5.
—— præcipitatum	*Precipitated Sulphur*	dr. 1.—	dr. 2.
Syrupus altheæ	*Syrup of Marſh-mallow*	dr. 1.—	dr. 2.
—— papaveris albi	*Syrup of White Poppies*	dr. 4.—	un. 1.
—— —— erratici	*Syrup of wild Poppy*	dr. 2.—	dr. 4.
—— roſæ	*Syrup of Roſes*	dr. 1.—	dr. 2.
—— ſpinæ cervinæ	*Syrup of Buckthorn*	dr. 1.—	dr. 2.
—— violæ	*Syrup of Violets*	dr. 1.—	dr. 2.
—— zingiberis	*Syrup of Ginger*	dr. 1.—	dr. 2.
Tanacetum	*Dandelion*	ſcr. 1½.—	dr. 1.
Tartari cryſtalli	*Cryſtals of Tartar*	dr. 4.—	un. 1.
Tinctura alöes	*Tincture of Aloes*	dr. 4.—	un. 1.
—— —— compoſita	*Compound Tincture of Aloes*	ſcr. 1½.—	dr. 2.
—— aſafœtidæ	*Tincture of Aſafœtida*	ſcr. 1.—	dr. 2.
—— balſami peruviani	*Tincture of Balſam of Peru*	ſcr. 1½.—	dr. 2.
—— —— tolutani	*Tincture of Balsam of Tolu*	ſcr. 1½.—	dr. 2.
—— benzoës compoſita	*Compound Tincture of Benjamin*	dr. 1.—	dr. 2.
—— cantharidis	*Tincture of the Spaniſh Fly*	gr. 10.—	dr. 1.
—— cardamomi	*Tincture of Cardamom*	dr. 1.—	dt. 3.
—— —— compoſita	*Compound Tincture of Cardamom*	dr. 1.—	dr. 3.
—— caſcarillæ	*Tincture of Caſcarilla*	dr. 1.—	dr. 4.
—— caſtrei	*Tincture of Caſtor*	ſcr. 1.—	dr. 1½.
—— catechu	*Tincture of Catechu*	dr. 2.—	dr. 3.
—— cinchonæ	*Tincture of Bark*	dr. 1.—	dr. 4.
—— —— compoſita	*Compound Tincture of Bark*	dr. 2.—	dr. 4.

Tinctura

		DOSES. Common.	Large.
Tinctura cinchonæ ammoniata	*Ammoniated Tincture of Bark*	scr. 1½.	dr. 2.
—— cinnamomi	*Tincture of Cinnamon*	dr. 1.	dr. 3.
—— —— composita	*Compound Tincture of Cinnamon*	dr. 1.	dr. 3.
—— colombæ	*Tincture of Colomba*	dr. 1.	dr. 3.
—— ferri ammoniacalis	*Tincture of Ammoniacal Iron*	scr. 1.	dr. 2.
—— ferri muriati	*Tincture of Muriated Iron*	gtt. 10.	gtt. 60.
—— galbani	*Tincture of Galbanum*	dr. 1.	dr. 3.
—— gentianæ composita	*Compound Tincture of Gentian*	dr. 2.	dr. 3.
—— guaiaci ammoniata	*Tincture of Ammoniated Guaiacum*	dr. 1.	dr. 4.
—— helebori nigri	*Tincture of Black Hellebore*	scr. 1.	dr. 1.
—— jalapii	*Tincture of Jalap*	dr. 1.	dr. 3.
—— myrrhæ	*Tincture of Myrrh*	dr. 1.	dr. 2.
—— opii	*Tincture of Opium*	gtt. 20.	gtt. 25.
—— —— camphorata	*Camphorated Tincture of Opium*	gtt. 30.	gtt. 60.
—— rhabarbari	*Tincture of Rhubarb*	dr. 4.	un. 2.
—— —— composita	*Compound Tincture of Rhubarb*	dr. 4.	un. 2.
—— Sabinæ composita	*Compound Tincture of Savin*	gtt. 20.	gtt. 40.
—— scillæ	*Tincture of Squills*	gtt. 20.	gtt. 60.
—— sennæ	*Tincture of Senna*	dr. 2.	un. 1.
—— serpentariæ	*Tincture of Serpentaria*	dr. 1.	dr. 2.
—— valerianæ	*Tincture of Valerian*	dr. 1.	dr. 3.
—— —— ammoniata	*Ammoniated Tincture of Valerian*	scr. 1.	dr. 2.
—— zingiberis	*Tincture of Ginger*	dr. 1.	dr. 2.
Tormentilla	*Tormentil Root*	gr. 10.	scr. 2.
Tragacantha	*Tragacanth*	gr. 10.	dr. 1.
Valeriana	*Valerian*	scr. 1.	dr. 2.
Vinum aloes	*Wine of Aloes*	dr. 6.	un. 1.
—— antimonii	*Antimonial Wine*	gtt. 20.	gtt. 50.
—— —— tartarisati	*Wine of Tartarised Antimony*	gtt. 20.	gtt. 50.
—— ferri	*Wine of Iron*	dr. 1.	dr. 4.
—— ipecacuanhæ	*Ipecacuanha Wine*	dr. 1.	dr. 4.
—— rhabarbari	*Wine of Rhubarb*	dr. 4.	un. 2.
Uva ursi	*Bear's Whortleberry*	scr. 1.	dr. 1.
Zincum calcinatum	*Calcined Zinc*	gr. 3.	gr. 10.
—— vitriolatum purificatum	*Purified Vitriolated Zinc*	gr. 5.	scr. 1.

THE

ANCIENT AND PRESENT

SYNONYMA

OF

THE LONDON COLLEGE.

FORMER NAMES.	PRESENT NAMES.
Acetum ſcilliticum.	Acetum ſcillæ.
Æthiops mineralis.	Hydrargyrus cum ſulphure.
Aqua aluminoſa bateana.	Aqua aluminis compoſita.
—— *calcis ſimplex.*	—— calcis.
—— *cinnamomi ſimplex.*	—— cinnamomi.
———— *ſpirituoſa.*	Spiritus cinnamomi.
—— *hordeata.*	Decoctum hordei.
—— *juniperi compoſita.*	Spiritus juniperi compoſitus.
—— *menthæ piperitidis ſimplex.*	Aqua menthæ piperitidis.
———— *ſpirituoſa.*	Spiritus menthæ piperitidls.
———— *vulgaris ſimplex.*	Aqua menthæ ſativæ.
———— *ſpirituoſa.*	Spiritus menthæ ſativæ.
—— *nucis moſchatæ.*	——— nucis moſchatæ.
—— *piperis jamaicenſis.*	Aqua pimento.
—— *pulegii ſimplex.*	—— pulegii.
———— *ſpirituoſa.*	Spiritus pulegii.
—— *raphani compoſita.*	——— raphani compoſitus.
—— *roſarum damaſcenarum.*	Aqua roſæ.
—— *ſapphirina.*	—— cupri ammoniati.
—— *ſeminum anethi.*	—— anethi.
———— *aniſi compoſita.*	Spiritus aniſi compoſitus.
———— *carui.*	——— carui.
—— *vitriolica camphorata.*	Aqua zinci vitriolati cum camphora.
Balſamum ſulphuris barbadenſe.	Petroleum ſulphuratum.
———— *ſimplex.*	Oleum ſulphuratum.
—— *traumaticum.*	Tinctura benzoës compoſita.

FORMER NAMES.	PRESENT NAMES.
Calx antimonii.	Antimonium calcinatum.
Cauſticum antimoniale.	——— muriatum.
——— *commune fortius.*	Calx cum kali puro.
——— *lunare.*	Argentum nitratum.
Ceratum album.	Ceratum ſpermatis ceti.
——— *citrinum.*	——— reſinæ flavæ.
——— *epuloticum.*	——— lapidis calaminaris.
Chalybis rubigo præparata.	Ferri rubigo.
Cinnabaris factitia.	Hydrargyrus ſulphuratus ruber.
Confectio cardiaca.	Confectio aromatica.
Decoctum album.	Decoctum cornu cervi.
——— *commune pro clyſtere.*	——— pro enemate.
——— *pectorale.*	——— hordei compoſitum.
Electuarium lenitivum.	Electuarium e ſennâ.
Elixir aloes.	Tinctura aloës compoſita.
——— *myrrhæ compoſitum.*	——— ſabinæ compoſita.
——— *paregoricum.*	——— opii camphorata.
Emplaſtrum ex ammoniaco cum mercurio.	Emplaſtrum ammoniaci cum hydrargyro.
——— *attrahens.*	——— ceræ.
——— *cephalicum.*	——— picis burgundicæ.
——— *commune.*	——— lithargyri.
——— *adhæſivum.*	——— cum reſina.
——— *cum gummi.*	——— cum gummi.
——— *cum mercurio.*	——— cum hydrargyro.
——— *e cymino.*	——— cumini.
——— *roborans.*	——— thuris.
——— *e ſapone.*	——— ſaponis.
——— *ſtomachicum.*	——— ladani.
——— *veſicatorium.*	——— cantharidis.
Emulſio communis.	Lac amygdalæ.
Extractum catharticum.	Extractum e colocynthide compoſitum.
——— *thebäicum.*	Opium purificatum.
Flores benzoini.	Flores benzoës.
——— *martiales.*	Ferrum ammoniacale.
Fotus communis.	Decoctum pro fomento.
Hiera picra.	Pulvis aloëticus.
Infuſum amarum ſimplex.	Infuſum gentianæ compoſitum.
——— *ſenæ commune.*	——— ſennæ tartariſatum.
Julepum e camphorâ.	Miſtura camphorata.
——— *e cretâ.*	——— cretacea.
——— *e moſcho.*	——— moſchata.

Linimentum

FORMER NAMES.	NEW NAMES.
Linimentum album.	Unguentum ſpermatis ceti.
——— *ſaponaceum.*	Linimentum ſaponis.
——— *volatile.*	——— ammoniæ.
Lixivium ſaponarium.	Aqua kali puri.
——— *tartar.*	—— kali.
Mel Ægyptiacum.	Oxymel æruginis.
—— *roſaceum.*	Mel roſæ.
Mercurius calcinatus.	Hydrargyrus calcinatus.
——— *corroſivus ſublimatus.*	——— muriatus.
——— *ruber.*	——— nitratus ruber.
——— *dulcis ſublimatus.*	Calomelas.
——— *emeticus flavus.*	Hydrargyrus vitriolatus.
——— *præcipitatus albus.*	Calx hydrargyri alba.
Nitrum vitriolatum.	Kali vitriolatum.
Oleum petrolei Barbadenſis.	Oleum petrolei.
——— *terebinthinæ æthereum.*	——— terebinthinæ rectificatum.
Opium colatum.	Opium purificatum.
Oxymel ſcilliticum.	Oxymel ſcillæ.
Philonium Londinenſe.	Confectio opiata.
Pillulæ aromaticæ.	Pulvis aloëticus cum guaiaco.
——— *rufi.*	Pillulæ ex aloë cum myrrhâ.
Pulvis e bolo compoſitus.	Pulvis e creta compoſitus.
——— *cum opio.*	——— cum opio.
——— *e ceruſſa compoſitus.*	——— e ceruſſa.
——— *ſternutatorius.*	——— aſari compoſitus.
Rob baccarum ſambuci.	Succus baccæ ſambuci ſpiſſatus.
Saccharum ſaturni.	Ceruſſa acetata.
Sal abſinthii.	Kali præparatum.
— *catharticus Glauberi.*	Natron vitriolatum.
— *diureticus.*	Kali acetatum.
— *martis.*	Ferrum vitriolatum.
— *tartari.*	Kali præparatum.
— *vitrioli.*	Zincum vitriolatum.
— *volatilis ſalis ammoniaci.*	Ammonia præparata.
Species aromaticæ.	Pulvis aromaticus.
Spiritus cornu cervi.	Liquor volatilis cornu cervi.
——— *lavendulæ compoſitus.*	Tinctura lavendulæ compoſita.
——— *ſimplex.*	Spiritus lavendulæ.
——— *nitri dulcis.*	——— ætheris nitroſi.
——— *Glauberi.*	Acidum nitroſum.
——— *ſalis ammoniaci.*	Aqua ammoniæ.
——— *dulcis.*	Spiritus ammoniæ.

FORMER NAMES.	NEW NAMES.
Spiritus ſalis marini Glauberi.	Acidum muriaticum.
——— *vinoſus camphoratus.*	Spiritus camphoratus.
——— *vitrioli dulcis.*	——— ætheris vitrioli.
——— *volatilis aromaticus.*	——— ammoniæ compoſitus.
——————— *fœtidus.*	——————— fœtidus.
Succi ſcorbutici.	Succus cochleariæ compoſitus.
Syrupus ex althæâ.	Syrupus althææ.
——— *e corticibus aurantiorum.*	——— corticis aurantii.
——— *balſamicus.*	——— tolutanus.
——— *e meconio.*	——— papaveris albi.
——— *roſarum ſolutivus.*	——— roſæ.
Tabellæ cardialgicæ.	——— Trochiſci e creta.
Tartarum emeticum.	Antimonium tartariſatum.
——— *ſolubile.*	Kali tartariſatum.
——— *vitriolatum.*	——— vitriolatum.
Tinctura amara.	Tinctura gentianæ compoſita.
——— *aromatica.*	——— cinnamomi compoſita.
——— *fœtida.*	——— aſæ fœtidæ.
——— *guaiacina volatilis.*	——— guaiaci.
——— *japonica.*	——— catechu.
——— *martis in ſpiritu ſalis*	——— ferri muriati.
——— *melampodii.*	——— hellebori nigri.
——— *rhabarbari ſpirituoſa.*	——— rhabarbari.
——————— *vinosa.*	Vinum rhabarbari.
——— *roſarum.*	Infuſum roſæ.
——— *ſacra.*	Vinum aloës.
——— *ſtomachica.*	Tinctura cardamomi compoſita.
Trochiſci bechici albi.	Trochiſci ex amylo.
——————— *nigri.*	——— e glycyrrhiza.
Vinum antimoniale.	Vinum antimonii.
——— *chalybeatum.*	——— ferri.
Unguentum album.	Unguentum ceræ.
——— *baſilicum flavum.*	——— reſinæ flavæ.
——— *cæruleum fortius.*	——— hydrargyri fortius.
——————— *mitius.*	——————— mitius.
——— *e mercurio præcipitato.*	——— calcis hydrargyri albæ.
——— *ſaturninum.*	——— ceruſſæ acetatæ.
——— *ſimplex.*	——— adipis ſuillæ.

THE

ANCIENT AND MODERN

NOMENCLATURE.

IN ALPHABETICAL ORDER.

ANCIENT NAMES.	MODERN NAMES.
ACID acetous.	ACETOUS acid.
Acid aërial.	Carbonic acid.
Acid arsenical.	Arsenic acid.
Acid boracic.	Boracic acid.
Acid cretaceous.	Carbonic acid.
Acid lignic, or of box.	Pyro-ligneous acid.
Acid malusian.	Malic acid.
Acid marine.	Muriatic acid.
Acid marine dephlogisticated.	Oxygenated muriatic acid.
Acid mephitic.	Carbonic acid.
Acid of alum.	Sulphuric acid.
Acid of amber.	Succinic acid.
Acid of ants.	Formic acid.
Acid of apples.	Malic acid.
Acid of benzoin.	Benzoic acid.
Acid of borax.	Boracic acid.
Acid of chalk.	Carbonic acid.
Acid of charcoal.	Carbonic acid.
Acid of fat.	Cebacic acid.
Acid of galls.	Gallic acid.
Acid of galls alcoholised.	Gallic alcohol.
Acid of lemons.	Citric acid.
Acid of molybden.	Molybdic acid.
Acid of muria.	Muriatic acid.
Acid of nitre.	Nitric acid.
Acid of nitre, white.	Nitric acid.
Acid of nitre deprived of its gas.	Nitric acid.
Acid of nitre, dephlogisticated.	Nitric acid.

ANCIENT NAMES.	MODERN NAMES.
Acid of nitre, phlogiſticated.	Nitrous acid.
Acid of phoſphorus, dephlogiſticated.	Phoſphoric acid.
Acid of phoſphorus, phlogiſticated.	Phoſphorous acid.
Acid of ſalt, alcoholiſed.	Muriatic alcohol.
Acid of ſea-ſalt.	Muriatic acid.
Acid of ſilk-worms.	Bombic acid.
Acid of ſpar or fluor.	Fluoric acid.
Acid of ſugar.	Oxalic acid.
Acid of ſulphur.	Sulphuric acid.
Acid of tungſtein or tungſten	Tunſtic acid.
Acid of wolfram of Meſſrs. Delhuyar.	Tunſtic acid.
Acid ſaccharine.	Oxalic acid.
Acid ſaccholactic, or acid of the ſugar of milk.	Saccho-lactic acid.
Acid ſebaceous, or of fat.	Sebacic acid.
Acid ſedative, or narcotic, of Homberg.	Boracic acid.
Acid ſulphureous.	Sulphureous acid.
Acid ſyrrupous.	Pyromucous acid.
Acid tartareous.	Tartareous acid.
Acid vitriolic.	Sulphuric acid.
Acid vitriolic, phlogiſticated.	Sulphureous acid.
Acidum perlatum.	Saturated phoſphat of ſoda.
Acidum pingue.	Meyer's hypothetical principle.
Æther acetous.	Acetic ether.
Æther marine.	Muriatic ether.
Æther nitrous.	Nitric ether.
Æther vitriolic.	Sulphuric ether.
Æthiops martial.	Black oxyd of iron.
Æthiops mineral.	Black ſulphurated oxyd of mercury.
Æthiops per ſe.	Blackiſh mercurial oxyd.
Affinities.	Chymical affinities or attractions.
Air alkaline.	Ammoniacal gas.
Air atmoſpherical, or common air.	Atmoſpherical, or common air.
Air dephlogiſticated, of Dr. Prieſtley.	Oxygen gas.
Air, dephlogiſticated marine acid.	Oxygenated muriatic acid gas.
Air factitious.	Carbonic acid gas.
Air fœtid of ſulphur.	Sulphurated hydrogen gas.
Air fire, Scheele's.	Oxygen gas.
Air fixed, of Dr. Black.	Carbonic acid gas.
Air impure.	Azotic gas.
Air inflammable.	Hydrogen gas.
Air, marine acid.	Muriatic acid gas.
Air nitrous.	Nitrous gas.
Air phlogiſticated.	Azotic gas.

ANCIENT NAMES.	MODERN NAMES.
Air pure.	Oxygen gas.
Air solid of Hale.	Carbonic acid gas.
Air vitiated.	Azotic gas.
Air vital.	Oxygen gas.
Air vitriolic acid, of Dr. Priestley.	Sulphureous acid gas.
Alkaest.	The pretended universal solvent of the alchymists.
Alkaest of Respour.	Potash mixed with oxyd of zink.
Alkaest of Van Helmont.	Carbonat of potash.
Alkalies.	Alkalies.
Alkalies aërated.	Alkaline corbonats.
Alkalies caustic.	Alkalies.
Alkalies mild.	Alkaline corbonats.
Alkali fixed of tartar, caustic.	Potash.
Alkali fixed of tartar not caustic.	Carbonat of potash.
Alkali fixed vegetable.	Carbonat of potash.
Alkali fossile.	Carbonat of soda.
Alkali marine caustic.	Soda.
Alkali marine not caustic.	Carbonat of soda.
Alkali mineral acetated.	Acetite of soda.
Alkali mineral aërated.	Carbonat of soda.
Alkali of Prussian blue.	Ferruginous Prussiat of potash.
Alkali of urine.	Carbonat of ammoniac. Ammoniacal carbonat.
Alkali phlogisticated.	Ferruginous Prussiat of potash not saturated.
Alkali vegetable acetated.	Acetite of potash.
Alkali vegetable aërated.	Carbonat of potash.
Alkali vegetable supertartarised.	Acidulous tartrite of potash.
Alkali volatile acetated.	Ammoniacal acetite. Acetite of ammoniac.
Alkali volatile aërated.	Ammoniacal carbonat. Carbonat of ammoniac.
Alkali volatile fluor.	Ammoniac.
Alkali volatile caustic.	Ammoniac.
Alkali volatile concrete.	Ammoniacal carbonat.
Alkali volatile mephiticated.	Carbonat of ammoniac.
Allay, or alloy of metals.	Alloy.
Alum.	Sulphat of alumine. Aluminous sulphat.
Alum marine.	Muriat of alumine. Aluminous muriat.
Alum nitrous.	Nitrite of alumine. Aluminous nitrite.
Amber yellow.	Amber of succinum.

Antimony

ANCIENT NAMES.	MODERN NAMES.
Antimony crude.	Sulphuret of antimony.
Antimony diaphoretic.	White oxyd of antimony by nitre.
Antimony muriated.	Muriat of antimony.
Antimony supertartarised.	Antimoniated tartrite of potash.
Antimony sulphur-caline.	Red sulphurated oxyd of antimony.
Antimony sulphur-caline deäl-calised.	Orange-coloured sulphurated oxyd of antimony.
Antimony vitrified.	Vitreous sulphurated oxyd of an-mony.
Aqua fortis.	Common nitrous acid.
Aqua regia.	Nitro-muriatic acid.
Aqua stygia.	Nitro-muriatic acid by the ammo-niacal muriat.
Aquila alba.	Mild sublimated mercurial muriat.
Arcanum corallinum.	Red oxyd of mercury by the ni-tric acid.
Arcanum duplicatum.	Sulphat otash.
Argil pure. or argillaceous earth.	Alumine.
Argil cretaceous.	Aluminous carbonat.
Argil spathic.	Aluminous fluat. Fluat of Alumine.
Arsenic, regulus of.	Arsenic.
Arsenic, white, calx of.	Oxyd of arsenic.
Arsenic red.	Red sulphurated oxyd of arsenic.
Arseniate of potash.	Arseniat of potash.
Attractions elective.	Elective attractions.
Azure of cobalt, or of the four fires.	Vitreous oxyd of cobalt and silice.
Balsoms, Buquet's.	Balsoms.
Balsom of sulphur.	Sulphuret of volatile oil.
Barilla.	Carbonat of soda.
Barytes.	Barytes.
Barytes aërated.	Carbonat of barytes.
Barytes vitriolated.	Sulphat of barytes.
Barytes mephiticated.	Carbonat of barytes.
Base of vital air.	Oxygen.
Base of marine salt.	Soda.
Benzoin, or Benjamin.	Benzoin.
Bezoar mineral.	Oxyd of antimony.
Bismuth.	Bismuth.
Bismuth muriated.	Muriat of bismuth.
Bitumen.	Bitumen.
Black-lead.	Carburet of iron.
Blue Berlin.	Prussiat of iron.
Blue Prussian.	Prussiat of iron.

ANCIENT NAMES.	MODERN NAMES.
Borax.	Borax of soda, or borat sursaturated with soda.
Borax ammoniacal.	Ammoniacal borat.
Borax argillaceous.	Aluminous borat.
Borax barytic, or ponderous.	Borat of barytes.
Borax calcareous.	Borat of lime. Calcareous borat.
Borax magnesian.	Magnesian borat. Borat of magnesia.
Borax martial.	Borat of iron.
Borax mercurial.	Borat of mercury.
Borax of antimony.	Borat of antimony.
Borax of zink.	Borat of zink.
Borax vegetable.	Borat of potash.
Butter of antimony.	Sublimated muriat of antimony.
Butter of arsenic.	Sublimated muriat of arsenic.
Butter of bismuth.	Sublimated muriat of bismuth.
Butter of cobalt.	Sublimated muriat of cobalt.
Butter of copper.	Sublimated muriat of copper.
Butter of tin.	Sublimated muriat of tin.
Butter of tin, solid, of Mr. Beaumé.	Concrete muriat of tin.
Butter of zink.	Sublimated muriat of zink.
Brass.	Brass, alloy of copper and zink.
Calces metallic.	Metallic oxyds.
Calomel.	Mild muriat of mercury levigated.
Calx of antimony vitrified.	Vitreous oxyd of antimony.
Camphor.	Camphor.
Camphorite salts.	Camphorats.
Causticum.	Meyer's hypothetical principle.
Causticum lunare.	Nitrat of silver.
Ceruse.	White oxyd of lead by the acetous acid, *mixed with carbonat of lime.*
Ceruse of antimony.	White oxyd of antimony by precipitation.
Chalk.	Chalk. Carbonat of lime. Calcareous carbonat.
Charcoal pure.	Carbon.
Cinnabar.	Sulphurated red oxyd of mercury.
Clay.	Clay, a mixture of alumine and silice.
Cobalt.	Cobalt.
Colcothar of vitriol.	Red oxyd of iron by the sulphuric acid.
Copper acetated.	Acetite of copper.

ANCIENT NAMES.	MODERN NAMES
Copperas green.	Sulphat of iron.
Copper super-vitriolated.	Sulphat of copper.
Diana's tree.	Cryſtallized amalgam of ſilver.
Earth, acetated calcareous.	Calcareous acetite.
Earth, aërial ponderous.	Carbonat of barytes.
Earth animal.	Calcareous phoſphat.
Earth baſe of ponderous ſpar.	Barytes.
Earth calcareous.	Lime, or calcareous earth.
Earth, cryſtallizable foliated.	Acetite of ſoda.
Earth, foliated mercurial.	Acetite of mercury.
Earth, foliated mineral.	Acetite of ſoda.
Earth of alum.	Alumine.
Earth of tartar, foliated.	Acetite of potaſh.
Earth magneſian.	Carbonat of magneſia.
Earth muriatic, of Kirwan.	Magneſia.
Earth ponderous.	Barytes.
Earth ſiliceous.	Siliceous earth, or ſilice.
Emetic tartar.	Antimoniated tartrite of potaſh.
Empyreal principle.	Oxygen gas.
Eſſences.	Volatile oils.
Fecula of vegetables.	Fecula.
Flowers, ammoniacal cupreous.	Sublimated ammoniacal muriat of copper.
Flowers argentine, of regulus of antimony.	Sublimated oxyd of antimony.
Flowers metallic.	Sublimated metallic oxyds.
Flowers of arſenic.	Sublimated oxyd of arſenic.
Flowers of benzoin.	Sublimated benzoic acid.
Flowers of biſmuth.	Sublimated oxyd of biſmuth.
Flowers of ſulphur.	Sublimated ſulphur.
Flowers of tin.	Sublimated oxyd of tin.
Flowers of zink.	Sublimated oxyd of zink.
Fluids aëriform.	Gaſes.
Fluids elaſtic.	Gaſes.
Fluor ammoniacal.	Fluat of ammoniac. Ammoniacal fluat.
Fluor argillous.	Aluminous fluat. Fluat of alumine.
Fluor of magneſia.	Fluat of magneſia.
Fluor of potaſh.	Fluat of potaſh.
Fluor of ſoda.	Fluat of ſoda.

ANCIENT NAMES.	MODERN NAMES.
Fluor ponderous.	Barytic fluat.
Formiate salts.	Formiats.
Gas, acetous acid.	Acetous acid gas.
Gas, aërial muriatic acid.	Oxygenated muriatic acid gas.
Gas alkaline.	Ammoniacal gas.
Gas, cretaceous acid.	Carbonic acid gas.
Gas hepatic.	Sulphurated hydrogen gas.
Gas inflammable.	Hydrogen gas.
Gas inflammable carbonated.	Carbonated hydrogen gas.
Gas inflammable, of marshes.	Marsh hydrogen gas, (or carbonated hydrogen gas.)
Gas mephitic.	Carbonic acid gas.
Gas, marine acid.	Muriatic acid gas.
Gas nitrous.	Nitrous gas.
Gas phlogisticated.	Azotic gas.
Gas phosphoric, of Mr. Gengembre.	Phosphorated hydrogen gas.
Gas of Prussian blue.	Prussic acid gas.
Gas sulphureous.	Sulphureous acid gas.
Gas sylvestre, of Helmont.	Carbonic acid gas.
Gilla vitrioli.	Sulphat of zink.
Glutinous matter of wheat.	Gluten, or glutenus.
Gold muriated.	Muriat of Gold.
Gold thundering.	Ammoniacal oxyd of gold.
Hepars.	Sulphurets.
Heat latent.	Caloric.
Ink of sympathy by cobalt.	Muriat of cobalt.
Iron aërated.	Carbonat of iron.
Iron acetated.	Acetite of iron.
Jupiter.	Tin.
Kirmes mineral.	Red sulphurated oxyd of antimony.
Lapis infernalis.	Molten nitrat of silver.
Lead, or saturn.	Lead.
Lead muriated.	Muriat of lead.
Lead spathic.	Carbonat of lead.
Lead subacetated.	White oxyd of lead by the acetous acid.
Lead superacetated.	Acetite of lead.
Lemon-juice.	Citric acid.

ANCIENT NAMES.	MODERN NAMES.
Ley of ſoap.	Solution of ſoda.
Ley, mother.	Deliqueſcent ſaline reſiduum.
Lignite ſalts.	Pyro-lignites.
Lily of Paracelſus.	Alcohol of potaſh.
Lime-water of Pruſſian blue.	Pruſſiat of lime.
Liquor, Boyle's ſmoking.	Ammoniacal ſulphuret.
Liquor, Libavius's ſmoking.	Smoking muriat of tin.
Liquor ſaturated with the colouring matter of Pruſſian blue.	Pruſſiat of potaſh.
Litharge.	Demi-vitreous oxyd of lead, or litharge.
Liver of antimony.	Sulphurated oxyd of antimony.
Liver of arſenic.	Arſenical oxyd of potaſh.
Livers of ſulphur.	Alkaline ſulphurets.
Livers of ſulphur, earthy.	Earthy ſulphurets.
Liver of ſulphur, antimoniated.	Antimoniated alkaline ſulphuret.
Liver of ſulphur, calcareous.	Calcareous ſulphuret. Sulphuret of lime.
Liver of ſulphur, barytic.	Barytic ſulphuret. Sulphuret of barytes.
Liver of ſulphur, magneſian.	Sulphuret of magneſia. Magneſian ſulphuret.
Liver of ſulphur, volatile alkaline.	Ammoniacal ſulphuret. Sulphuret of ammoniac.
Luna cornea.	Muriat of ſilver.
Magiſtery of biſmuth.	Oxyd of biſmuth by the nitric acid.
Magiſtery of lead.	Precipitated oxyd of lead.
Magiſtery of ſulphur.	Precipitated ſulphur.
Magneſia alba.	Carbonat of magneſia.
Magneſia aërated, of Bergman.	Carbonat of magneſia.
Magneſia black.	Black oxyd of manganeſe.
Magneſia cauſtic.	Magneſia.
Magneſia cretaceous.	Carbonat of magneſia.
Magneſia effervescing.	Carbonat of magneſia.
Magneſia fluorated.	Fluat of magneſia.
Magneſia ſpathic.	Fluat of magneſia.
Maluſite ſalts.	Malites of potaſh, of ſoda, &c.
Maſſicot.	Yellow oxyd of lead.
Matter of heat.	Caloric.
Matter of fire.	This term has been uſed to ſignify light, caloric, and phlogiſton.
Matter pearly of Kerkringius.	White oxyd of antimony by precipitation.

ANCIENT NAMES.	MODERN NAMES.
Matter colouring of Pruſſian blue.	Pruſſic acid.
Mephiticated metals, earths, &c.	Carbonats of metals, &c.
Mercury acetated.	Acetite of mercury.
Mercurius dulcis.	Mild mercurial muriat.
Mercury precipitate, white.	Mercurial muriat by precipitation.
Mercury of metals.	Beccher's hypothetical principle.
Minium.	Red oxyd of lead, or minium.
Mophet, atmoſpherical.	Azotic gas.
Molybden, ſaline compoſitions of.	Molybdats.
Mucilage.	Mucus.
Muriated metals.	Muriats of different metals.
Muriated gold, or reguline ſalt of gold.	Muriat of gold.
Muriated mercury, corroſive.	Corroſive mercurial muriat.
Natron, or mineral natrum.	Carbonat of ſoda.
Nitre.	Nitrat of potaſh, or nitre.
Nitre ammoniacal.	Ammoniacal nitrat.
Nitre argillous.	Nitrat of alumine.
Nitre calcareous.	Nitrat of lime. Calcareous nitrat.
Nitre cubic.	Nitrat of ſoda.
Nitre Egyptian.	Nitrat of ſoda.
Nitre fixed by itſelf.	Carbonat of potaſh.
Nitre lunar.	Nitrat of ſilver.
Nitre of arſenic.	Nitrat of arſenic.
Nitre of biſmuth.	Nitrat of biſmuth.
Nitre of cobalt.	Nitrat of cobalt.
Nitre of copper.	Nitrat of copper.
Nitre of iron.	Nitrat of iron.
Nitre of lead.	Nitrat of lead.
Nitre of magneſia.	Nitrat of magneſia.
Nitre of mangaueſe.	Nitrat of manganeſe.
Nitre of nickel.	Nitrat of nickel.
Nitre of ponderous earth.	Barytic nitrat. Nitrat of barytes.
Nitre of ſilver.	Nitrat of ſilver.
Nitre of tin.	Nitrat of tin.
Nitre of zink.	Nitrat of zink.
Nitre priſmatic.	Nitrat of potaſh.
Nitre quadrangular.	Nitrat of ſoda.
Nitre rhomboïdal.	Nitrat of ſoda.
Nitre ſaturnine.	Nitrat of lead.

ANCIENT NAMES.	MODERN NAMES.
Ochre.	Yellow oxyd of iron.
Oil of lime.	Calcareous muriat.
Oil of philosophers.	Empyreumatic fixed oil.
Oil of tartar per deliquium.	Potash mixed with carbonat of potash in deliquescence.
Oil of vitriol.	Sulphuric acid.
Oils ethereal.	Volatile animal oils.
Oils animal.	Volatile oils.
Oils empyreumatic.	Empyreumatic oils.
Oils essential.	Volatile oils.
Oils expressed.	Fixed oils.
Oils gross.	Fixed oils.
Oils unctuous.	Fixed oils.
Ore of antimony.	Native sulphuret of antimony.
Ore of iron, of marshes.	Iron ore, containing phosphat of iron.
Pewter.	Alloy of copper and tin, pewter.
Phlogiston.	Stahl's hypothetical principle.
Phosphate ammoniacal.	Ammoniacal phosphat. Phosphat of ammoniac.
Phosphate of barytes.	Phosphat of barytes. Barytic phosphat.
Phosphate calcareous.	Phosphat of lime.
Phosphate of magnesia.	Magnesian phosphat.
Phosphate of potash.	Phosphat of potash.
Phosphate of soda.	Phosphat of soda.
Phosphorus, Baldwin's.	Dry calcareous nitrite.
Phosphorus of Kunkel.	Phosphorus.
Phosphorus of Homberg.	Dry calcareous muriat.
Platina.	Platina.
Plumbago.	Carburet of iron.
Pompholix.	Sublimated oxyd of zink.
Potash, or potashes common.	Impure carbonat of potash.
Powder of algaroth.	Oxyd of antimony by the muriatic acid.
Powder of count de Palma.	Carbonat of magnesia.
Powder of Sentinelly.	Carbonat of magnesia.
Precipitate golden, or purple of Cassius.	Oxyd of gold precipitated by tin.
Precipitate red.	Red oxyd of mercury by the nitric acid.
Precipitate per se.	Red oxyd of mercury by fire.
Precipitate yellow.	Yellow oxyd of mercury by the sulphuric acid.
Precipitate white by the muriatic acid.	Muriat of mercury by precipitation.

Principle

ANCIENT NAMES.	MODERN NAMES.
Principle acidifying.	Oxygen.
Principle aſtringent.	Gallic acid.
Principle inflammable, ſee phlogiſton.	
Principle mercurial.	Beccher's hypothetical principle.
Principle of charcoal.	Carbon.
Principle ſorbile of Ludbock.	Oxygen.
Pruſſite calcareous.	Calcareous pruſſiat. Pruſſiat.
Pruſſite of ſoda.	Pruſſiat of ſoda.
Pyrites of copper.	Sulphuret of copper.
Pyrites martial.	Sulphuret of iron.
Pyrophore of Homberg.	Carbonated ſulphuret of alumine. Pyrophore of Homberg.
Realgar.	Red ſulphurated oxyd of arſenic.
Realgites, ſalts formed with aqua-regia.	Nitro-muriats.
Regulus.	A word uſed to ſignify the metallic ſtate.
Regulus of antimony.	Antimony.
Regulus of arſenic.	Arſenic.
Regulus of cobalt.	Cobalt.
Regulus of mangane̊ſe.	Mangane̊ſe.
Regulus of molybden.	Molybden.
Regulus of ſyderite.	Phoſphuret of iron.
Ruſt of copper.	Green oxyd of copper.
Ruſt of iron.	Carbonat of iron.
Rubine of antimony.	Vitreous brown ſulphurated oxyd of antimony.
Saffron of mars.	Oxyd of iron.
Saffron of mars, aperitive.	Carbonat of iron.
Saffron of mars, aſtringent.	Brown oxyd of iron.
Saffron of metals.	Demi-vitreous ſulphurated oxyd of antimony.
Sal ammoniac.	Ammoniacal muriat. Muriat of ammoniac.
Sal ammoniac fixed.	Calcareous muriat. Muriat of lime.
Sal de duobus.	Sulphat of potaſh.
Sal polychreſt of Glaſer.	Sulphat of potaſh.
Sal polychreſt of Rochelle.	Tartrite of ſoda.
Sal ſodæ, ſee ſoda.	
Salt acetous ammoniacal.	Ammoniacal acetite. Acetite of ammoniac.

Salt

ANCIENT NAMES.	MODERN NAMES.
Salt acetous calcareous.	Calcareous acetite. Acetite of lime.
Salt acetous magnesian.	Magnesian acetite. Acetite of magnesia.
Salt acetous martial.	Acetite of iron.
Salt acetous mineral.	Acetite of soda.
Salt acetous of argill.	Aluminous acetite.
Salt acetous of zink.	Acetite of zink.
Salt ammoniacal cretaceous.	Ammoniacal carbonat.
Salt ammoniacal fixed.	Calcareous muriat. Muriat of lime.
Salt ammoniacal nitrous.	Nitrat of ammoniac.
Salt ammoniacal secret of Glauber.	Sulphat of ammoniac.
Salt ammoniacal sedative.	Ammoniacal borat.
Salt ammoniacal spathic.	Fluat of ammoniac.
Salt ammoniacal vitriolic.	Ammoniacal sulphat.
Salt bitter purging.	Magnesian sulphat. Sulphat of magnesia.
Salt common.	Muriat of soda.
Salt febrifuge of Sylvius.	Muriat of potash.
Salt fusible of urine.	Phosphat of soda and ammoniac.
Salt, Glauber's.	Sulphat of soda.
Salt marine argillous.	Aluminous muriat. Muriat of alumine.
Salt marine calcareous.	Calcareous muriat. Muriat of lime.
Salt marine magnesian.	Magnesian muriat. Muriat of magnesia.
Salt marine of iron.	Muriat of iron.
Salt marine of zink.	Muriat of zink.
Salt native of urine.	Phosphat of soda and ammoniac.
Salt, neutral arsenical, of Macquer.	Acidulous arseniat of potash.
Salt of alembroth.	Ammoniaco-mercurial muriat.
Salt of amber, obtained by crystallization.	Crystallized succinic acid.
Salt of colcothar.	Sulphat of iron, in a state little known.
Salt of Epsom.	Sulphat of magnesia.
Salt of Jupiter.	Muriat of tin.
Salt of milk.	Sugar of milk.
Salt of Schedschutz.	Magnesian sulphat.
Salt of Sedlitz.	Sulphat of magnesia.
Salt of Segner.	Sebat of potash.
Salt of Seignette.	Tartrite of soda.
Salt of sorrel.	Acidulous oxalat of potash.
Salt of wisdom.	Ammoniaco-mercurial muriat.
Salt of wormwood, common.	Carbonat of potash.

ANCIENT NAMES.	MODERN NAMES.
Salt-petre.	Nitrat of potash, or nitre.
Salt reguline of gold.	Muriat of gold.
Salt sedative.	Boracic acid.
Salt sedative mercurial.	Borat of mercury.
Salt sedative sublimated.	Sublimated boracic acid.
Salt stanno-nitrous.	Nitrat of tin.
Salt sulphureous, of Stahl.	Sulphite of potash.
Salt vegetable.	Tartrite of potash.
Salt volatile of amber.	Sublimated succinic acid.
Salt wonderful pearly.	Sursaturated phosphat of soda.
Saturn.	Lead.
Selenite.	Sulphat of lime.
Silver muriated.	Muriat of silver.
Silver supernitrated.	Molten nitrat of silver.
Snow of antimony.	White sublimated oxyd of antimony.
Soaps acid.	Acid soaps.
Soaps alkaline.	Alkaline soaps.
Soaps earthy, of Mr. Bertholet.	Earthy soaps.
Soaps metallic, of Mr. Bertholet.	Metallic soaps.
Soap of Starky.	Saponul of potash.
Soda caustic.	Soda.
Soda cretaceous.	Carbonat of soda.
Spanish-white.	White oxyd of lead by the acetous acid.
Spar ammoniacal.	Ammoniacal fluat.
Spar calcareous.	Carbonat of lime.
Spar fluor.	Calcareous fluat.
Spar ponderous.	Sulphat of barytes.
Spirits acid.	Acids diluted with water.
Spirit acid, of box.	Pyroligneous acid.
Spirit alkaline volatile.	Ammoniac gas, or ammoniacal gas.
Spirit ardent.	Alcohol.
Spirit of mindererus.	Ammoniacal acetite.
Spirit of nitre.	Nitric acid diluted with water.
Spirit of nitre dulcified.	Nitric alcohol.
Spirit of nitre smoking.	Nitrous acid.
Spirit of salt.	Muriatic acid.
Spirit of sal ammoniac.	Ammoniac.
Spirit of Venus.	Acetic acid.
Spirit of vitriol.	Sulphuric acid diluted with water.
Spirit of wine.	Alcohol.
Spirit rector, or the matter of odour in flowers.	Aroma.

ANCIENT NAMES.	MODERN NAMES.
Spirit volatile of ſal ammoniac.	Ammoniac diluted with water.
Spiritus ſylveſtre, of Helmont.	Carbonic acid.
Sublimate corroſive.	Corroſive muriat of mercury.
Sugar canded.	Chryſtallized ſugar.
Sugar of lead.	Acetite of lead.
Sugar, or ſalt of milk.	Sugar of milk.
Sulphur golden of antimony.	Orange-coloured ſulphurated oxyd of antimony.
Syderite.	Phoſphat of iron.
Syderotete of Mr. de Morveau.	Phoſphuret of iron.
Tartar.	Acidulous tartrite of potaſh.
Tartar ammoniacal.	Ammoniacal tartrite.
Tartar antimoniated.	Antimoniated tartrite of potaſh.
Tartar calcareous.	Tartrite of lime.
Tartar chalybeated.	Ferruginous tartrite of potaſh.
Tartar cretaceous.	Carbonat of potaſh.
Tartar crude.	Tartar.
Tartar cupreous.	Tartrite of copper.
Tartar emetic.	Antimoniated tartrite of potaſh.
Tartar of magneſia.	Tartrite of magneſia.
Tartar of potaſh.	Tartrite of potaſh.
Tartar of ſoda.	Tartrite of ſoda.
Tartar martial ſoluble.	Ferruginous tartrite of potaſh.
Tartar mephiticated.	Carbonat of potaſh.
Tartar mercurial.	Mercurial tartrite.
Tartar ſaturnine.	Tartrite of lead.
Tartar ſpathic, or of ſpar.	Fluat of potaſh.
Tartar ſoluble.	Tartrite of potaſh.
Tartar ſtibiated.	Antimoniated tartrite of potaſh.
Tartar tartariſed.	Tartrite of potaſh.
Tartar tartariſed containing antimony.	Tartrite of potaſh ſurcompounded with antimony.
Tartar vitriolated.	Sulphat of potaſh.
Tincture acrid of tartar.	Alcohol of potaſh.
Tinctures ſpirituous.	Reſinous alcohols.
Tin muriated.	Muriat of tin.
Tungſtein.	Tunſtein, or tungſtein.
Turbith mineral.	Yellow oxyd of mercury by the ſulphuric acid.
Turbith nitrous.	Yellow oxyd of mercury by the nitric acid.

Verdegris

ANCIENT NAMES.	MODERN NAMES.
Verdegris.	Green oxyd of copper.
Verdegris of the ſhops.	Acetite of copper, with exceſs of oxyd of copper.
Venus.	Copper.
Vinegar diſtilled.	Acetous acid.
Vinegar ſaturn.	Acetite of lead.
Vinegar radical.	Acetic acid.
Vitriol ammoniacal.	Ammoniacal ſulphat.
Vitriol blue, or Roman vitriol.	Sulphat of copper.
Vitriol green, or copperas.	Sulphat of iron.
Vitriol magneſian.	Sulphat of magneſia.
Vitriol martial.	Sulphat of iron.
Vitriol of antimony.	Sulphat of antimony.
Vitriol of clay, or argile.	Sulphat of alumine.
Vitriol of biſmuth.	Sulphat of biſmuth.
Vitriol of cobalt.	Sulphat of cobalt.
Vitriol of copper.	Sulphat of copper.
Vitriol of Cyprus.	Sulphat of copper.
Vitriol of lead.	Sulphat of lead.
Vitriol of manganeſe.	Sulphat of manganeſe.
Vitriol of mercury.	Sulphat of mercury.
Vitriol of nickel.	Sulphat of nickel.
Vitriol of platina.	Sulphat of platina.
Vitriol of potaſh.	Sulphat of potaſh.
Vitriol of ſilver.	Sulphat of ſilver.
Vitriol of ſoda.	Sulphat of ſoda.
Vitriol of tin.	Sulphat of tin.
Vitriol of zinc.	Sulphat of zinc.
Vitriol white.	Sulphat of zinc.
Water.	Water.
Wolfram of Meſſ. d'Elhuyar.	Tunſtein.
Zinc.	Zinc.

THE

MODERN CHEMICAL NOMENCLATURE

ENTIRE.

MODERN NAMES.	ANCIENT NAMES.
ACETATS. *Acetas, tis, s. m.*	SALTS formed by the union of the acetic acid, or radical vinegar, with different bases.
Acetat aluminous, or *Acetat of alumine.* *Acetas aluminosus.*	
Acetat ammoniacal, or *Acetat of ammoniac*.* *Acetas ammoniacalis.*	
Acetat of arsenic. *Acetas arsenici.*	
Acetat of barytes. *Acetas barytæ.*	
Acetat of bismuth. *Acetas bismuthi.*	
Acetat of cobalt. *Acetas cobalti.*	
Acetat of copper. *Acetas cupri.*	
Acetat of gold. *Acetas auri.*	
Acetat of iron. *Acetas ferri.*	

* These two manners of expressing the basis of a neutral salt will not again be repeated; but the one or the other shall, without distinction, be used. These first examples are sufficient to shew that either the substantive or the adjective may be used with equal propriety. The same observation agrees also with the Latin Nomenclature.

Acetat

MODERN NAMES.	ANCIENT NAMES.
Acetat of lead. *Acetas plumbi.*	
Acetat of lime. *Acetas calcareus.*	
Acetat of magneſia. *Acetas magneſiæ.*	
Acetat of mangaueſe. *Acetas magneſii.*	
Acetat of mercury. *Acetas hydrargiri.*	
Acetat of molybden. *Acetas molybdeni.*	
Acetat of nickel. *Acetas niccoli.*	
Acetat of platina. *Acetas platinæ.*	
Acetat of potaſh. *Acetas potaſſæ.*	
Acetat of ſilver. *Acetas argenti.*	
Acetat of ſoda. *Acetas ſodæ.*	
Acetat of tin. *Acetas ſtanni.*	
Acetat of tunſtein. *Acetas tunſteni.*	
Acetat of zinc. *Acetas zinci.*	
Acetites. *Acetis, itis, s m.*	Salts formed by the union of the acetous acid, or diſtilled vinegar, with different baſes.
Acetite aluminous. *Acetis aluminoſus.*	*Acetated clay.*
Acetite ammoniacal. *Acetis ammoniacalis.*	*Mindererus's ſpirit.*
Acetite of antimony. *Acetis ſtibii.*	
Acetite of arſenic. *Acetis arſenicalis.*	
Acetite of barytes. *Acetis baryticus.*	
Acetite of biſmuth. *Acetis biſmuthi.*	
Acetite of cobalt. *Acetis cobalti.*	
Acetite of copper. *Acetis cupri.*	*Cryſtals of Venus.*

MODERN NAMES.	ANCIENT NAMES.
Acetite of gold. *Acetis auri.*	
Acetite of iron.[1] *Acetis ferri.*	
Acetite of lead. *Acetis plumbi.*	*Sugar of lead. Super-acetated lead.*
Acetite of lime. *Acetis calcareus.*	
Acetite of magnefia. *Acetis magnefiæ.*	*Acetous falt of magnefia.*
Acetite of manganefe. *Acetis magnefii.*	
Acetite of mercury. *Acetis hydrargiri.*	*Foliated earth of mercury.*
Acetite of molybden. *Acetis molybdeni.*	
Acetite of nickel. *Acetis niccoli.*	
Acetite of platina. *Acetis platini.*	
Acetite of potafh. *Acetis potaffæ.*	*Foliated earth of tartar.*
Acetite of filver. *Acetis argenti.*	
Acetite of foda. *Acetis fodæ.*	*Mineral foliated earth.*
Acetite of tin. *Acetis ftanni.*	
Acetite of tunftein. *Acetis tunfteni.*	
Acetite of zinc. *Acetis zinci.*	*Acetous falt of zinc.*
Acid acetic. *Acidum aceticum.*	*Radical vinegar. Spirit of Venus.*
Acid acetous. *Acidum acetofum.*	*Acetous acid. Diftilled vinegar.*
Acid arfenic. *Asidum arfenicum.*	*Arfenical acid.*
Acid benzoic. *Acidum benzoicum.*	*Acid of Benjamin.*
Acid benzoic fublimated. *Acidum benzoicum fublimatum.*	*Flowers of Benjamin.*
Acid boracic. *Acidum boracicum.*	*Volatile narcotic falt of vitriol. Sedative falt, acid of borax.*
Acid bombic. *Acidum bombicum.*	*Acid of filk-worms.*

Acid

MODERN NAMES.	ANCIENT NAMES.
Acid carbonic. *Acidum carbonicum.*	*Gas Sylveſtre, of Van Helmont.* *Spiritus Sylveſtris.* *Fixed air,* of Dr. Black. *Aerial acid.* *Atmoſpheric acid.* *Mephitic acid.* *Cretaceous acid.* *Acid of charcoal.*
Acid citric. *Acidum citricum.*	*Lemon juice.*
Acid fluoric. *Acidum fluoricum.*	*Fluoric acid.* *Acid of ſpar.*
Acid formic. *Acidum formicum.*	*Formic acid, acid of ants.*
Acid gallic. *Acidum gallæ, ſeu gallaceum.*	*Aſtringent principle.* *Gallic acid.*
Acid lactic. *Acidum lacticum.*	*Sower whey, galactic acid.*
Acid lithic. *Acidum lithicum.*	*Acid of bezoar.* *Lithiaſic acid.*
Acid malic. *Acidum malicum.*	*Acid of apples.* *Maluſian acid.*
Acid molybdic. *Acidum molybdicum.*	*Acid of molybden.* *Acid of wolfram.*
Acid muriatic. *Acidum muriaticum.*	*Acid of ſea-ſalts.* *Smoking ſpirit of ſalt.* *Marine acid.*
Acid muriatic oxygenated. *Acidum muriaticum oxygenatum.*	*Dephlogiſticated marine acid.* *Aërated marine acid.*
Acid nitrous. *Acidum nitroſum.*	*Phlogiſticated nitrous acid.* *Smoking nitrous acid.* *Smoking ſpirit of nitre.*
Acid nitric. *Acid nitricum.*	*White nitrous acid.* *Degazated nitrous acid.* *Dephlogiſticated nitrous acid.*
Acid nitro-muriatic. *Acidum nitro-muriaticum.*	*Aqua regia.* *Regaline acid.*
Acid oxalic. *Acidum oxalicum.*	*Acid of ſorrel.* *Saccharine acid.* *Acid of ſugar.*
Acid phoſphorous. *Acidum phoſphoroſum.*	*Volatile phoſphoric acid.*
Acid phoſphoric. *Acidum phoſphoricum.*	*Acid of phoſphorus.* *Acid of urine.*
Acid Pruſſic. *Acidum Pruſſicum.*	*Colouring matter of Pruſſian blue.*
Acid pyro-ligneous. *Acidum pyro-lignoſum.*	*Empyreumatic acid ſpirit of box.*

MODERN NAMES	ANCIENT NAMES.
Acid pyro-mucous. *Acidum pyro-mucosum.*	*Spirit of honey, of sugar, &c.*
Acid pyro-tartareous. *Acidum pyro-tartarosum.*	*Spirit of tartar.*
Acid saccho-lactic. *Acidum saccho-lacticum.*	*Acid of the sugar of milk.*
Acid sebacic. *Acidum sebacicum.*	*Acid of fat.*
Acid succinic. *Acidum succinicum.*	*Volatile salt of amber.* *Acid of amber.*
Acid sulphureous. *Acidum sulphurosum.*	*Sulphureous acid.* *Volatile sulphureous acid.* *Phlogisticated vitriolic acid.* *Spirit of sulphur.*
Acid sulphuric. *Acidum sulphuricum.*	*Acid of sulphur.* *Vitriolic acid.* *Oil of vitriol.* *Spirit of vitriol.*
Acid tartareous. *Acidum tartarosum.*	*Acid of tartar.*
Acid tunstic. *Acidum tunsticum.*	*Acid of tungstein.* *Acid of wolfram.*
Affinity. *Affinitas.*	*Affinity.*
Aggregation. *Aggregatio.*	*Aggregation.*
Air atmospherical. *Aër atmosphæricus.*	*Atmospherical air.*
Alkalies. *Alkalis.*	*Alkalies in general.*
Alcohol. *Alcohol,* indecl.	*Spirit of wine.* *Ardent spirits.*
Alcohol of potash. *Alcohol potassæ.*	*Lily of Paracelsus.* *Acrid tincture of tartar.*
Alcohol nitric. *Alcohol nitricum.*	*Dulcified spirit of nitre.*
Alcohol resinous. *Alcohol resinosa.*	*Spirituous tinctures.*
Alloy, or allay. *Connubium metallicum.*	*Alloy of metals.*
Alumine. *Alumina.*	*Earth of alum.* *Basis of alum.* *Pure argillous earth.*
Amalgam.	*Amalgam.*
Ammoniac. *Ammoniaca.*	*Volatile alkali caustic.* *Fluor volatile alkali.* *Volatile spirit of sal ammoniac.*

Antimony.

MODERN NAMES.	ANCIENT NAMES.
Antimony. *Antimonium, ſtibium.*	*Regulus of antimony.*
Argile, or clay, a mixture of alumine and ſilice. *Argilla.*	*Clay, or argillous earth.*
Aroma. *Aroma.*	*Odoriferous principle of flowers.*
Arſeniats. *Arſenias, tis, s. m.*	*Arſenical ſalts.*
Arſeniat acidulous of potaſh. *Arſenias acidulus potaſſæ.*	*Arſenical neutral ſalt of Macquer.*
Arſeniat of alumine. *Arſenias aluminæ.*	
Arſeniat of ammoniac. *Arſenias ammoniacæ ſeu ammoniacalis.*	*Arſenical ammoniac.*
Arſeniat of barytes. *Arſenias barytæ.*	
Arſeniat of biſmuth. *Arſenias biſmuthi.*	
Arſeniat of cobalt. *Arſenias cobalti.*	
Arſeniat of copper. *Arſenias cupri.*	
Arſeniat of gold. *Arſenias auri.*	
Arſeniat of iron. *Arſenias ferri.*	
Arſeniat of lime. *Arſenias calcis.*	
Arſeniat of magneſia. *Arſenias magneſiæ.*	
Arſeniat of manganeſe. *Arſenias magneſii.*	
Arſeniat of mercury. *Arſenias hydrargiri.*	
Arſeniat of molybden. *Arſenias molybdeni.*	
Arſeniat of nickel. *Arſenias niccoli.*	
Arſeniat of platina. *Arſenias platini.*	
Arſeniat of potaſh. *Arſenias potaſſæ.*	
Arſeniat of ſilver. *Arſenias argenti.*	

MODERN NAMES.	ANCIENT NAMES.
Arſeniat of ſoda. *Arſenias ſodæ.*	
Arſeniat of tin. *Arſenias ſtanni.*	
Arſeniat of tunſtein. *Arſenias tunſteni.*	
Arſeniat of zinc. *Arſenias zinci.*	
Barytes. *Baryta.*	*Ponderous earth.* *Barytes.* *Baſis of ponderous ſpar.*
Balſams. *Balſama.*	*Buquet's balſams.* (Reſins united with a concrete acid ſalt.)
Benzoin. *Benzoe.*	*Benzoin, or Benjamin.*
Benzoats. *Benzoas, tis, s. m.*	Salts formed by the union of the benzoic acid with different baſes. The ſalts of this genus have no appellations in the ancient nomenclature.
Benzoat of alumine. *Benzoas aluminoſus.*	
Benzoat of ammoniac. *Benzoas ammoniacalis.*	
Benzoat of antimony. *Benzoas ſtibii.*	
Benzoat of arſenic. *Benzoas arſenicalis.*	
Benzoat of barytes. *Benzoas baryticus.*	
Benzoat of biſmuth. *Benzoas biſmuthi.*	
Benzoat of cobalt. *Benzoas cobalti.*	
Benzoat of copper. *Benzoas cupri.*	
Benzoat of gold. *Benzoas auri.*	
Benzoat of iron. *Benzoas ferri.*	
Benzoat of lead. *Benzoas plumbi.*	
Benzoat of lime. *Benzoas calcareus.*	

MODERN NAMES.	ANCIENT NAMES.
Benzoat of magnesia. *Benzoas magnesiæ.*	
Benzoat of manganese. *Benzoas magnesii.*	
Benzoat of mercury. *Benzoas hydrargiri.*	
Benzoat of molybden. *Benzoas molybdeni.*	
Benzoat of nickel. *Benzoas niccoli.*	
Benzoat of platina. *Benzoas platini.*	
Benzoat of potash. *Benzoas potassæ.*	
Benzoat of silver. *Benzoas argenti.*	
Benzoat of soda. *Benzoas sodæ.*	
Benzoat of tin. *Benzoas stanni.*	
Benzoat of tunstein. *Benzoas tunsteni.*	
Benzoat of zinc. *Benzoas zinci.*	
Bismuth. *Bismuthum.*	*Bismuth.*
Bitumens. *Bitumina.*	*Bitumens.*
Bombiats. *Bombias, tis. s. m.*	Salts formed by the union of the bombic acid with different bases. This genus of salt had no appellation in the ancient nomenclature.
Bombiat of alumine. *Bombias aluminosus.*	
Bombiat of ammoniac. *Bombias ammoniacalis.*	
Bombiat of antimony. *Bombias stibii.*	
Bombiat of arsenic. *Bombias arsenicalis.*	
Bombiat of barytes. *Bombias baryticus.*	
Bombiat of bismuth. *Bombias bismuthi.*	
Bombiat of cobalt. *Bombias cobalti.*	

MODERN NAMES.	ANCIENT NAMES.
Bombiat of copper. *Bombias cupri.*	
Bombiat of gold. *Bombias auri.*	
Bombiat of lead. *Bombias plumbi.*	
Bombiat of iron. *Bombias ferri.*	
Bombiat of lime. *Bombias calcareus.*	
Bombiat of magnesia. *Bombias magnesiæ.*	
Bombiat of manganese. *Bombias magnesii.*	
Bombiat of mercury. *Bombias hydrargiri.*	
Bombiat of molybden. *Bombias molybdeni.*	
Bombiat of nickel. *Bombias niccoli.*	
Bombiat of platina. *Bombias platini.*	
Bombiat of potash. *Bombias potassæ.*	
Bombiat of silver. *Bombias argenti.*	
Bombiat of soda. *Bombias sodæ.*	
Bombiat of tin. *Bombias stanni.*	
Bombiat of tunstein. *Bombias tunsteni.*	
Bombiat of zinc. *Bombias zinci.*	
Borat. *Boras, tis, s. m.*	*Borax.*
Borat aluminous. *Boras aluminosus.*	*Argillous borax.*
Borat ammoniacal. *Boras ammoniacalis.*	*Ammoniacal borax.* *Sedative sal ammoniac.*
Borat of antimony. *Boras stibii.*	*Borax of antimony.*
Borat of arsenic. *Boras arsenici.*	
Borat of barytes. *Boras barytæ.*	*Ponderous borax.*

MODERN NAMES.	ANCIENT NAMES.
Borat of bifmuth. *Boras bifmuthi.*	
Borat of cobalt. *Boras cobalti.*	*Borax of cobalt.*
Borat of copper. *Boras cupri.*	*Borax of copper.*
Borat of gold. *Boras auri.*	
Borat of iron. *Boras ferri.*	*Borax of iron.*
Borat of lead. *Boras plumbi.*	
Borat of lime. *Boras calcis.*	
Borat of magnefia. *Boras magnefiæ.*	*Magnefian borax.*
Borat of manganefe. *Boras magnefii.*	
Borat of mercury. *Boras mercurii.*	*Mercurial borax.* *Mercurial fedative falt.*
Borat of molybden. *Boras molybdeni.*	
Borat of nickel. *Boras niccoli.*	
Borat of platina. *Boras platini.*	
Borat of potafh. *Boras potaffæ.*	*Vegetable borax.*
Borat of filver. *Boras argenti.*	
Borat of foda. *Boras fodæ.*	*Common borax faturated with boracic acid.*
Borat of tin. *Boras ftanni.*	
Borat of tunftein. *Boras tunfteni.*	
Borat of zinc. *Boras zinci.*	*Borax of zinc.*
Borax of foda, or borat furfaturated with foda.	*Rough borax.* *Tinckal.* *Cryfocolla.* *Borax of commerce.* *Sub-boraxated mineral alkali.*

MODERN NAMES.	ANCIENT NAMES.
Caloric. *Caloricum.*	*Latent heat.* *Fixed heat.* *Matter of heat.*
Camphor. *Camphora.*	*Camphor.*
Camphorat. *Camphoras, tis, s. m.*	Salts formed by the union of the camphoric acid with different bafes. Thefe falts were unknown to former chymifts, and have no names in the ancient nomenclature.
Camphorat of alumine. *Camphoras aluminofus.*	
Camphorat of ammoniac. *Camphoras ammoniacalis.*	
Camphorat of antimony. *Camphoras ftibii.*	
Camphorat of arfenic. *Camphoras arfenicalis.*	
Camphorat of barytes. *Camphoras baryticus.*	
Camphorat of bifmuth. *Camphoras bifmuthi.*	
Camphorat of cobalt. *Camphoras cobalti.*	
Camphorat of copper. *Camphoras cupri.*	
Camphorat of gold. *Camphoras auri.*	
Camphorat of iron. *Camphoras ferri.*	
Camphorat of lead. *Camphoras plumbi.*	
Camphorat of lime. *Camphoras calcis.*	
Camphorat of magnefia. *Camphoras magnefiæ.*	
Camphorat of manganefe. *Camphoras magnefii.*	
Camphorat of mercury. *Camphoras hydrargiri.*	
Camphorat of molybden. *Camphoras molybdeni.*	
Camphorat of nickel. *Camphoras niccoli.*	
Camphorat of platina. *Camphoras platini.*	

MODERN NAMES.	ANCIENT NAMES.
Camphorat of potafh. *Camphoras potaffæ.*	
Camphorat of filver. *Camphoras argenti.*	
Camphorat of foda. *Camphoras fodæ.*	
Camphorat of tin. *Camphoras ftanni.*	
Camphorat of tunftein. *Camphoras tunfteni.*	
Camphorat of zinc. *Camphoras zinci.*	
Carbon. *Carbonicum.*	*Pure charcoal.*
Carbonat. *Carbonas, tis, s. m.*	Salts formed by the union of the carbonic acid with bafes.
Carbonat of alumine. *Carbonas aluminofus.*	*Cretaceous argil.*
Carbonat of ammoniac. *Carbonas ammoniaci.*	*Concrete volatile alkali.* *Ammoniacal chalk.*
Carbonat of antimony. *Carbonas antimonii.*	
Carbonat of arfenic. *Carbonas arfenicalis.*	
Carbonat of barytes. *Carbonas baryticus.*	
Carbonat of bifmuth. *Carbonas bifmuthi.*	
Carbonat of cobalt. *Carbonas cobalti.*	
Carbonat of copper. *Carbonas cupri.*	
Carbonat of gold. *Carbonas auri.*	
Carbonat of iron. *Carbonas ferri.*	*Aperitive faffron of mars.* *Ruft of iron.* *Aërated iron.* *Martial chalk.* *Mephiticated iron.*
Carbonat of lead. *Carbonas plumbi.*	*Chalk of lead.* *Spathic lead.*
Carbonat of lime. *Carbonas calcis.*	*Chalk.* *Lime-ftone.* *Aërated calcareous earth.* *Calcareous fpar.* *Cream of lime.*

Carbonat

MODERN NAMES.	ANCIENT NAMES.
Carbonat of magneſia. *Carbonas magneſiæ.*	*Magneſian earth.* *Magneſia alba, of the ſhops.* *Bergman's aërated magneſia.* *Cretaceous magneſia.* *Magneſian chalk.* *Kirwan's muriatic earth.* *Count de Palma's and Sentinelli's powder.*
Carbonat of manganeſe. *Carbonas magneſii.*	
Carbonat of mercury. *Carbonas mercurii.*	
Carbonat of molybden. *Carbonas molybdeni.*	
Carbonat of nickel. *Carbonas niccoli.*	
Carbonat of platina. *Carbonas platini.*	
Carbonat of potaſh. *Carbonas potaſſæ.*	*Salt of tartar.* *Vegetable fixed alkali.* *Salt of worm-wood.* *Aërated vegetable fixed alkali.* *Cretaceous tartar.* *Mephiticated tartar.* *Nitre fixed by itſelf.* *Van Helmont's alkaeſt.*
Carbonat of ſilver. *Carbonas argenti.*	
Carbonat of ſoda. *Carbonas ſodæ.*	*Natrum, or natron.* *Baſe of marine ſalt.* *Marine, or mineral alkali.* *Cryſtals of ſoda.* *Cretaceous ſoda.* *Aërated ſoda.* *Efferveſcing ſoda.* *Mephiticated ſoda, &c.*
Carbonat of tin. *Carbonas ſtanni.*	
Carbonat of tunſtein. *Carbonas tunſteni.*	
Carbonat of zinc. *Carbonas zinci.*	*Chalk of zinc.* *Aërated zinc.*
Carburet of iron.	*Plumbago.*

MODERN NAMES.	ANCIENT NAMES.
Citrats. *Citras, tis, s. m.*	Salts formed by the union of the acid of lemons with different bases. This genus of salt had no name in the ancient nomenclature.
Citrat of alumine. *Citras aluminosus.*	
Citrat of ammoniac. *Citras ammoniaci.*	
Citrat of antimony. *Citras stibii.*	
Citrat of arsenic. *Citras arsenicalis.*	
Citrat of barytes. *Citras baryticus.*	
Citrat of bismuth. *Citras bismuthi.*	
Citrat of cobalt. *Citras cobalti.*	
Citrat of copper. *Citras cupri.*	
Citrat of gold. *Citras auri.*	
Citrat of iron. *Citras ferri.*	
Citrat of lead. *Citras plumbi.*	
Citrat of lime. *Citras calcareus.*	
Citrat of magnesia. *Citras magnesiæ.*	
Citrat of manganese. *Citras magnesii.*	
Citrat of mercury. *Citras mercurii.*	
Citrat of molybden. *Citras molybdeni.*	
Citrat of nickel. *Citras niccoli.*	
Citrat of platina. *Citras platini.*	
Citrat of potash. *Citras potassæ.*	
Citrat of silver. *Citras argenti.*	

MODERN NAMES.	ANCIENT NAMES.
Citrat of ſoda. *Citras ſodæ.*	
Citrat of tin. *Citras ſtanni.*	
Citrat of tunſtein. *Citras tunſteni.*	
Citrat of zinc. *Citras zinci.*	
Cobalt.	*Regulus of cobalt.* *Cobalt.*
Copper. *Cuprum.*	*Copper.* *Venus.*
Diamond.	*Diamond.*
Ether acetic. *Ether aceticum.*	*Acetous ether, or æther.*
Ether muriatic. *Ether muriaticum.*	*Marine ether.*
Ether nitric. *Ether nitricum.*	*Nitrous ether.*
Ether ſulphuric. *Ether ſulphuricum.*	*Vitriolic ether.*
Extract. *Extractum.*	*Extract.*
Fecula. *Fecula.*	*Fecula of vegetables.*
Fluats. *Fluas, tis, s. m.*	Salts formed by the fluoric acid, combined with different baſes.
Fluat of alumine. *Fluas aluminoſus.*	*Argillous fluor.* *Spathic argile.*
Fluat of ammoniac. *Fluas ammoniacalis.*	*Spathic ſal ammoniac.* *Ammoniacal fluor.*
Fluat of antimony. *Fluas ſtibii.*	
Fluat of arſenic. *Fluas arſenicalis.*	
Fluat of barytes. *Fluas barytæ.*	*Ponderous fluor.* *Barytic fluor.*
Fluat of biſmuth. *Fluas biſmuthi.*	
Fluat of cobalt. *Fluas cobalti.*	

Fluat

MODERN NAMES.	ANCIENT NAMES.
Fluat of copper. *Fluas cupri.*	
Fluat of gold. *Fluas auri.*	
Fluat of iron. *Fluas ferri.*	
Fluat of lead. *Fluas plumbi.*	
Fluat of lime. *Fluas calcareus.*	*Fluor ſpar.* *Vitreous ſpar.* *Cubic ſpar.* *Phoſphoric ſpar.* *Spathic fluor.*
Fluat of magneſia. *Fluas magneſiæ.*	*Fluorated magneſia.* *Spathic magneſia.* *Magneſian fluor.*
Fluat of manganeſe. *Fluas magneſii.*	
Fluat of mercury. *Fluas mercurii.*	
Fluat of molybden. *Fluas molybdeni.*	
Fluat of nickel. *Fluas niccoli.*	
Fluat of platina. *Fluas platini.*	
Fluat of potaſh. *Fluas potaſſæ.*	*Tartareous fluor.* *Spathic tartar.*
Fluat of ſilver. *Fluas argenti.*	
Fluat of ſoda. *Fluas ſodæ.*	*Fluor of ſoda.* *Spathic ſoda.*
Fluat of tin. *Fluas ſtanni.*	
Fluat of tunſtein. *Fluas tunſteni.*	
Fluat of zinc. *Fluas zinci.*	
Formiats. *Formias, tis, s. m.*	Salts produced by the union of the formic acid with different baſes. This genus of ſalt was without a name in the ancient nomenclature.
Formiat of alumine. *Formias aluminoſus.*	

MODERN NAMES.	ANCIENT NAMES.
Formiat of ammoniac. *Formias ammoniacalis.*	
Formiat of antimony. *Formias antimonii.*	
Formiat of arfenic. *Formias arfenicalis.*	
Formiat of barytes. *Formias baryticus.*	
Formiat of bifmuth. *Formias bifmuthi.*	
Formiat of cobalt. *Formias cobalti.*	
Formiat of copper. *Formias cupri.*	
Formiat of gold. *Formias auri.*	
Formiat of iron. *Formias ferri.*	
Formiat of lead. *Formias plumbi.*	
Formiat of lime. *Formias calcareus.*	
Formiat of magnefia. *Formias magnefiæ.*	
Formiat of manganefe. *Formias magnefii.*	
Formiat of mercury. *Formias mercurii.*	
Formiat of molybden. *Formias molybdeni.*	
Formiat of nickel. *Formias niccoli.*	
Formiat of platina. *Formias platini.*	
Formiat of filver. *Formias argenti.*	
Formiat of foda. *Formias fodæ.*	
Formiat of tin. *Formias ftanni.*	
Formiat of tunftein. *Formias tunfteni.*	
Formiat of zinc. *Formias zinci.*	

MODERN NAMES.	ANCIENT NAMES.
Gas. *Gas.*	*Gas, air.* *Elaſtic fluid.* *Aëriform fluid.*
Gas, acetous acid. *Gas acidum acetoſum.*	*Acetous acid gas.*
Gas ammoniacal. *Gas ammoniacale.*	*Alkaline gas,* of Dr. Prieſtley. *Alkaline air.* *Volatile alkali gas.*
Gas azotic. *Gas azoticum.*	*Vitiated air.* *Impure air.* *Phlogiſticated air.* *Phlogiſticated gas.* *Atmoſpherical mophets.*
Gas, carbonic acid. *Gas acidum carbonicum.*	*Fixed air,* of Dr. Black. *Hales's ſolid air.* *Cretaceous acid gas.* *Mephitic gas.*
Gas, carbonated hydrogen. *Gas hydrogenium carbonatum.*	*Inflammable gas with charcoal.*
Gas, fluoric acid. *Gas acidum fluoricum.*	*Spathic acid gas,* of Dr. Prieſtley. *Fluoric acid gas.*
Gas hydrogen. *Gas hydrogenium.*	*Inflammable air.* *Inflammable gas.* *Kirwan's phlogiſton.*
Gas, hydrogen of marſhes. *Gas hydrogenium paludum.*	*Mophetized inflammable gas.* *Inflammable air of marſhes.*
Gas, muriatic acid. *Gas acidum muriaticum.*	*Marine air, or gas,* of Dr. Prieſtley. *Muriatic acid gas.*
Gas nitrous. *Gas nitroſum.*	*Nitrous gas,* of Hales and Dr. Prieſtley.
Gas, nitrous acid. *Gas acidum nitroſum.*	*Nitrous acid gas.*
Oxygen gas. *Gas oxygenium.*	*Vital air.* *Pure air.* *Dephlogiſticated air,* of Dr. Prieſtley.
Gas, oxygenated muriatic acid. *Gas acidum muriaticum oxygenatum.*	*Aërated muriated acid gas.* *Dephlogiſticated marine acid,* of Scheele.
Gas, Pruſſic acid. *Gas acidum Pruſſicum.*	*Gas of Pruſſian blue.*
Gas, phoſphorized hydrogen. *Gas hydrogenium phoſphoriſatum.*	*Phoſphoric gas,* of Mr. Gengembre.
Gas, ſulphurated hydrogen. *Gas hydrogenium ſulphuratum.*	*Hepatic gas,* of Bergman. *Sulphur-caline air.*
Gas, ſulphureous acid. *Gas acidum ſulphureum.*	*Sulphureous acid gas.* *Vitriolic acid air,* of Dr. Prieſtley.

4 Gluten

MODERN NAMES	ANCIENT NAMES.
Gluten. *Gluten.*	*Glutenous matter of flower.* *Vegeto-animal matter.*
Gold. *Aurum.*	*Gold.*
Iron. *Ferrum.*	*Iron.* *Mars.*
Lactats. *Lactas, tis, s. m.*	Salts formed by the union of the acid of sour whey or lactic acid, with different bases. These salts were unknown before Scheele, and without names until the present time. Their properties have as yet been very little examined.
Lactat of alumine. *Lactas aluminosus.*	
Lactat of ammoniac. *Lactas ammoniacalis.*	
Lactat of antimony. *Lactas stibii.*	
Lactat of arsenic. *Lactas arsenicalis.*	
Lactat of barytes. *Lactas barytæ.*	
Lactat of bismuth. *Lactas bismuthi.*	
Lactat of cobalt. *Lactas cobalti.*	
Lactat of copper. *Lactas cupri.*	
Lactat of gold. *Lactas auri.*	
Lactat of lead. *Lactas plumbi.*	
Lactat of lime. *Lactas calcareus.*	
Lactat of iron. *Lactas ferri.*	
Lactat of magnesia. *Lactas magnesiæ.*	
Lactat of manganese. *Lactas magnesii.*	
Lactat of mercury. *Lactas mercurii.*	
Lactat of molybden. *Lactas molybdeni.*	

MODERN NAMES.	ANCIENT NAMES.
Lactat of nickel. *Lactas niccoli.*	
Lactat of platina. *Lactas platini.*	
Lactat of potaſh. *Lactas potaſſæ.*	
Lactat of ſilver. *Lactas argenti.*	
Lactat of ſoda. *Lactas ſodæ.*	
Lactat of tin. *Lactas ſtanni.*	
Lactat of tunſtein. *Lactas tunſteni.*	
Lactat of zinc. *Lactas zinci.*	
Lead. *Plumbum.*	*Lead.* *Saturn.*
Light.	*Light.*
Lime, or calcareous earth.	*Calcareous earth.* *Quick-lime.*
Lithiats. *Lithias, tis. s. m.*	Salts formed by the combination of the lithic acid, or acid of the ſtone ſometimes generated in the human bladder, with different baſes. This genus of ſalts had no name in the ancient nomenclature, becauſe it was not known before the time of Scheele.
Lithiat of alumine. *Lithias aluminoſus.*	
Lithiat of ammoniac. *Lithias ammoniacalis.*	
Lithiat of antimony. *Lithias ſtibii.*	
Lithiat of arſenic. *Lithias arſenicalis.*	
Lithiat of barytes. *Lithias baryticus.*	
Lithiat of biſmuth. *Lithias biſmuthi.*	
Lithiat of cobalt. *Lithias cobalti.*	
Lithiat of copper. *Lithias cupri.*	
Lithiat of gold. *Lithias auri.*	

MODERN NAMES.	ANCIENT NAMES.
Lithiat of iron. *Lithias ferri.*	
Lithiat of lead. *Lithias plumbi.*	
Lithiat of lime. *Lithias calcareus.*	
Lithiat of magnefia. *Lithias magnefiæ.*	
Lithiat of manganefe. *Lithias magnefii.*	
Lithiat of mercury. *Lithias mercurii.*	
Lithiat of molybden. *Lithias molybdeni.*	
Lithiat of nickel. *Lithias niccoli.*	
Lithiat of platina. *Lithias platini.*	
Lithiat of potafh. *Lithias potaffæ.*	
Lithiat of filver. *Lithias argenti.*	
Lithiat of foda. *Lithias fodæ.*	
Lithiat of tin. *Lithias ftanni.*	
Lithiat of tunftein. *Lithias tunfteni.*	
Lithiat of zinc. *Lithias zinci.*	
Malats. *Malas, tis, s. m.*	Salts formed by the union of the malic acid, or acid of apples with different bafes. This genus of falts has been without a name in the ancient nomenclature.
Malat of alumine. *Malas aluminofus.*	
Malat of ammoniac. *Malas ammoniacalis.*	
Malat of antimony. *Malas ftibii.*	
Malat of arfenic. *Malas arfenicalis.*	
Malat of barytes. *Malas baryticus.*	

ANCIENT NAMES.	MODERN NAMES.
Malat of biſmuth. *Malas biſmuthi.*	
Malat of cobalt. *Malas cobalti.*	
Malat of copper. *Malas cupri.*	
Malat of gold. *Malas auri.*	
Malat of lead. *Malas plumbi.*	
Malat of lime. *Malas calcareus.*	
Malat of iron. *Malas ferri.*	
Malat of magneſia. *Malas magneſiæ.*	
Malat of manganeſe. *Malas magneſii.*	
Malat of mercury. *Malas mercurii.*	
Malat of molybden. *Malas molybdeni.*	
Malat of nickel. *Malas niccoli.*	
Malat of platina. *Malas platini.*	
Malat of potaſh. *Malas potaſſæ.*	
Malat of ſilver. *Malas argenti.*	
Malat of ſoda. *Malas ſodæ.*	
Malat of tin. *Malas ſtanni.*	
Malat of tunſtein. *Malas tunſteni.*	
Malat of zinc. *Malas zinci.*	
Manganeſe. *Magneſium.*	*Regulus of manganeſe.*
Mercury. *Hydrargirum.*	*Mercury.* *Quick-ſilver.*
Molybdats. *Molybdas, tis. s. m.*	Salts formed by the union of the molybdic acid with different baſes. This genus of ſalts was without a name in the ancient nomenclature.

Molybdat

MODERN NAMES.	ANCIENT NAMES.
Molybdat of alumine. *Molybdas aluminosus.*	
Molybdat of ammoniac. *Molybdas ammoniacalis.*	
Molybdat of antimony. *Molybdas stibii.*	
Molybdat of arsenic. *Molybdas arsenicalis.*	
Molybdat of barytes. *Molybdas baryticus.*	
Molybdat of bismuth. *Molybdas bismuthi.*	
Molybdat of cobalt. *Molybdas cobalti.*	
Molybdat of copper. *Molybdas cupri.*	
Molybdat of gold. *Molybdas auri.*	
Molybdat of iron. *Molybdas ferri.*	
Molybdat of lead. *Molybdas plumbi.*	
Molybdat of lime. *Molybdas calcareus.*	
Molybdat of magnesia. *Molybdas magnesiæ.*	
Molybdat of manganese. *Molybdas magnesii.*	
Molybdat of mercury. *Molybdas mercurii.*	
Molybdat of nickel. *Molybdas niccoli.*	
Molybdat of platina. *Molybdas platini.*	
Molybdat of potash. *Molybdas potassæ.*	
Molybdat of silver. *Molybdas argenti.*	
Molybdat of soda. *Molybdas sodæ.*	
Molybdat of tin. *Molybdas stanni.*	
Molybdat of tunstein. *Molybdas tunsteni.*	
Molybdat of zinc. *Molybdas zinci.*	
Molybden.	*Regulus of molybden.*

MODERN NAMES.	ANCIENT NAMES.
Mucus.	*Mucilage.*
Muriats. *Murias, tis, s. m.*	Salts formed by the union of the muriatic acid with different bafes.
Muriat of alumine. *Murias aluminofus.*	*Marine alum.* *Argillous marine falt.*
Muriat of ammoniac. *Murias ammoniacalis.*	*Sal ammoniac.* *Salmiac.*
Muriat of antimony. *Murias ftibii.*	*Muriated antimony.*
Muriat of arfenic. *Murias arfenicalis.*	
Muriat of arfenic, fublimated. *Murias arfenicalis fublimatus.*	*Butter of arfenic.*
Muriat of barytes. *Murias baryticus,*	*Barytic marine falt.*
Muriat of bifmuth. *Murias bifmuthi.*	*Muriated bifmuth.*
Muriat of bifmuth, fublimated. *Murias bifmuthi fublimatus.*	*Butter of bifmuth.*
Muriat of cobalt. *Murias cobalti.*	*Sympathetic ink.*
Muriat of copper. *Murias cupri.*	*Muriated copper.*
Muriat of copper, fublimated ammoniacal. *Murias cupri.*	*Cupreous ammoniacal flowers.*
Muriat of gold. *Murias auri.*	*Regaline falt of gold.* *Muriated gold.*
Muriat of iron. *Murias ferri.*	*Muriated iron.* *Marine falt of iron.*
Muriat of lead. *Murias plumbi.*	*Muriated lead.* *Plumbum corneum.*
Muriat of iron fublimated ammoniacal.	*Martial ammoniacal flowers.*
Muriat of lime. *Murias calcareus.*	*Mother ley of fea-falt.* *Calcareous marine falt.* *Fixed fal ammoniac.*
Muriat of magnefia. *Murias calcareus.*	*Marine falt, having magnefia for its bafis.*
Muriat of manganefe. *Murias magnefii.*	*Muriated manganefe.*
Muriat of mercury, corrofive. *Murias hydrargiri corrofivus.*	*Corrofive fublimate.* *Super-muriated mercury.*
Muriat of mercury, mild. *Murias hydrargiri dulcis.*	*Mercurius dulcis.* *Sub-muriated mercury.*

MODERN NAMES.	ANCIENT NAMES.
Muriat of mercury ſublimated mild. *Murias hydrargiri ſublimatus.*	*Sweet mercury ſublimate.* *Aquila alba.* *Sub-muriated mercury ſublimate.*
Muriat of mercury and ammoniac. *Murias hydrargiri et ammoniacalis.*	*Salt of alembroth.*
Muriat of mercury by precipitation. *Murias hydrargiri.*	*Salt of wiſdom.* *White precipitated muriated mercury.*
Muriat of molybden. *Murias molybdeni.*	
Muriat of nickel. *Murias niccoli.*	
Muriat of platina. *Murias platini.*	*Muriated platina.* *Regaline ſalt of platina.*
Muriat of potaſh. *Murias potaſſæ.*	*Sylvius's febrifuge ſalt.* *Regenerated ſea-ſalt.*
Muriat of ſilver. *Murias argenti.*	*Luna cornea.*
Muriat of ſoda. *Murias ſodæ.*	*Sea-ſalt.*
Muriat of ſoda, foſſile. *Murias ſodæ foſſilis.*	*Sal gem.* *Salited foſſile alkali.*
Muriat of tin. *Murias ſtanni.*	*Salt of Jupiter.*
Muriat of tin, concrete. *Murias ſtanni.*	*Solid butter of tin,* of Mr. Beaumé.
Muriat of tin ſmoking. *Murias ſtanni.*	*Libavius's ſmoking liquor.*
Muriat of tin ſublimated. *Murias ſtanni.*	*Butter of tin.*
Muriat of tunſtein. *Murias tunſteni.*	
Muriat of zinc. *Murias zinci.*	*Marine ſalt of zinc.* *Muriated zinc.*
Muriat of zinc ſublimated. *Murias zinci.*	*Butter of zinc.*
Muriats oxygenated.	New combinations of the oxygenated muriatic acid with potaſh and ſoda, diſcovered by M. Bertholet.
Muriat of potaſh, oxygenated. *Murias oxygenatus potaſſæ.*	

Muriat

MODERN NAMES.	ANCIENT NAMES.
Muriat of ſoda, oxygenated. *Murias oxygenatus ſodæ.*	
Nitrats. *Nitras, tis. s. m.*	Salts formed by the union of the nitric acid with different baſes.
Nitrat of alumine. *Nitras aluminoſus.*	*Nitrous alum.* *Argillaceous nitre.*
Nitrat of ammoniac. *Nitras ammoniacalis.*	*Nitrous ſal ammoniac.* *Ammoniacal nitre.*
Nitrat of antimony. *Nitras ſtibii.*	
Nitrat of arſenic. *Nitras arſenicalis.*	*Nitre of arſenic.*
Nitrat of barytes. *Nitras baryticus.*	*Nitrated barytes.* *Nitre of heavy earth.*
Nitrat of biſmuth. *Nitras biſmuthi.*	*Nitre of biſmuth.*
Nitrat of cobalt. *Nitras cobalti.*	*Nitre of cobalt.*
Nitrat of copper. *Nitras cupri.*	*Nitre of copper.*
Nitrat of gold. *Nitras auri.*	
Nitrat of iron. *Nitras ferri.*	*Nitre of iron.* *Martial nitre.*
Nitrat of lead. *Nitras plumbi.*	*Nitre of lead.* *Nitre of ſaturn.*
Nitrat of lime. *Nitras calcareus.*	*Calcareous nitre.* *Mother ley of nitre.*
Nitrat of magneſia. *Nitras magneſiæ.*	*Nitre of magneſia.* *Magneſian nitre.*
Nitrat of mangaueſe. *Nitras magneſii.*	*Nitre of manganeſe.* *Nitrated manganeſe.*
Nitrat of mercury. *Nitras hydrargiri.*	*Nitre of mercury.* *Mercurial nitre.*
Nitrat of mercury in diſſolution. *Nitras hydrargiri.*	*Solution of mercury.*
Nitrat of molybden. *Nitras molybdeni.*	
Nitrat of nickel. *Nitras niccoli.*	*Nitrated nickel.* *Nitre of nickel.*
Nitrat of platina. *Nitras platini.*	
Nitrat of potaſh, or nitre. *Nitras potaſſæ, vel nitrum.*	*Nitre, ſalt-petre.* *Sal prunel.* *Nitrated vegetable alkali.*

MODERN NAMES.	ANCIENT NAMES.
Nitrat of ſilver. *Nitras argenti.*	*Nitre of ſilver.* *Lunar cryſtals.*
Nitrat of ſilver, molten. *Nitras argenti fuſus.*	*Lunar cauſtic.*
Nitrat of ſoda. *Nitras ſodæ.*	*Cubic nitre.* *Rhomboidal nitre.*
Nitrat of tin. *Nitras ſtanni.*	*Nitre of tin.* *Stanno-nitrous ſalt.*
Nitrat of tunſtein. *Nitras tunſteni.*	
Nitrat of zinc. *Nitras zinci.*	*Nitre of zinc.*
Nitrites. *Nitris, tis. s. m.*	Salts formed by the combination of *nitrous* acid* with different baſes. This genus of ſalt had no name in the ancient nomenclature, and not known before the late diſcoveries.
Nitrite of alumine. *Nitris aluminoſus.*	
Nitrite of ammoniac. *Nitris ammoniacalis.*	
Nitrite of antimony. *Nitris ſtibii.*	
Nitrite of arſenic. *Nitris arſenicalis.*	
Nitrite of barytes. *Nitris baryticus.*	
Nitrite of biſmuth. *Nitris biſmuthi.*	
Nitrite of cobalt. *Nitris cobalti.*	
Nitrite of copper. *Nitris cupri.*	
Nitrite of gold. *Nitris auri.*	
Nitrite of iron. *Nitris ferri.*	
Nitrite of lead. *Nitris plumbi.*	
Nitrite of lime. *Nitris calcareus.*	

* That is to ſay, by an acid of nitre containing leſs oxygen than that which we have denominated *nitric* acid, and which forms the *nitrats*.

Nitrite

MODERN NAMES.	ANCIENT NAMES.
Nitrite of magnefia. *Nitris magnefiæ.*	
Nitrite of manganefe. *Nitris magnefii.*	
Nitrite of mercury. *Nitris hydrargiri.*	
Nitrite of molybden. *Nitris molybdeni.*	
Nitrite of nickel. *Nitris niccoli.*	
Nitrite of platina. *Nitris platini.*	
Nitrite of potafh. *Nitris potaffæ.*	
Nitrite of filver. *Nitris argenti.*	
Nitrite of foda. *Nitris fodæ.*	
Nitrite of tin. *Nitris ftanni.*	
Nitrite of tunftein. *Nitris tunfteni.*	
Nitrite of zinc. *Nitris zinci.*	
Oxalats. *Oxalas, tis. s. m.*	Salts formed by the combination of the oxalic acid with different bafes. The greater number of thefe falts have not been named in the old nomenclature.
Oxalat acidulous of ammoniac. *Oxalas acidulus ammoniacalis.*	
Oxalat acidulous of potafh. *Oxalas acidulus potaffæ.*	*Common falt of forrel.*
Oxalat acidulous of foda. *Oxalas acidulus fodæ.*	
Oxalat of alumine. *Oxalas aluminofus.*	
Oxalat of ammoniac. *Oxalas ammoniacalis.*	
Oxalat of antimony. *Oxalas ftibii.*	
Oxalat of arfenic. *Oxalas arfenicalis.*	
Oxalat of barytes. *Oxalas baryticus.*	

MODERN NAMES.	ANCIENT NAMES.
Oxalat of biſmuth. *Oxalas biſmuthi.*	
Oxalat of cobalt. *Oxalas cobalti.*	
Oxalat of copper. *Oxalas cupri.*	
Oxalat of gold. *Oxalas auri.*	
Oxalat of iron. *Oxalas ferri.*	
Oxalat of lead. *Oxalas plumbi.*	
Oxalat of lime. *Oxalas calcareus.*	
Oxalat of magneſia. *Oxalas magneſiæ.*	
Oxalat of manganeſe. *Oxalas magneſii.*	
Oxalat of mercury. *Oxalas hydrargiri.*	
Oxalat of molybden. *Oxalas molybdeni.*	
Oxalat of nickel. *Oxalas niccoli.*	
Oxalat of platina. *Oxalas platini.*	
Oxalat of potaſh. *Oxalas potaſſæ.*	
Oxalat of ſilver. *Oxalas argenti.*	
Oxalat of ſoda. *Oxalas ſodæ.*	
Oxalat of tin. *Oxalas ſtanni.*	
Oxalat of tunſtein. *Oxalas tunſteni.*	
Oxalat of zinc. *Oxalas zinci.*	
Oxyd arſenical of potaſh. *Oxydum arſenicale potaſſæ.*	*Liver of arſenic.*
Oxyd white of arſenic. *Oxydum arſenici album.*	*White arſenic.* *Calx of arſenic.*
Oxyd of antimony by the muriatic acid and nitric acid. *Oxydum ſtibii.*	*Mineral bezoar.*

MODERN NAMES.	ANCIENT NAMES.
Oxyd of antimony, white, by nitre. *Oxydum ſtibii album nitro confectum.*	*Diaphoretic antimony.* *Ceruſſe of antimony.* *Kerkringius's pearly matter.*
Oxyd of antimony white ſublimated. *Oxydum ſtibii album ſublimatum.*	*Snow of antimony.* *Flowers of antimony.* *Argentine flowers of regulus of antimony.*
Oxyd of antimony by the muriatic acid. *Oxydum ſtibii acido muriatico confectum.*	*Powder of algaroth.*
Oxyd of antimony ſulphurated. *Oxydum ſtibii ſulphuratum.*	*Liver of antimony.*
Oxyd of antimony ſulphurated ſemi-vitreous. *Oxydum ſtibii ſulphuratum ſemi-vitreum.*	*Crocus metallorum.*
Oxyd of antimony ſulphurated orange-coloured. *Oxydum ſtibii ſulphuratum aurantiacum.*	*De-alcaliſed ſulphur-caline antimony.* *Golden ſulphur of antimony.* *Precipitated ſulphur of antimony.*
Oxyd of antimony, red ſulphurated. *Oxydum ſtibii ſulphuratum rubrum.*	*Kermes mineral.* *Sulphur-caline antimony.*
Oxyd of antimony ſulphurated vitreous. *Oxydum ſtibii ſulphuratum vitreum.*	*Glaſs of antimony.*
Oxyd of antimony, brown vitreous ſulphurated. *Oxydum ſtibii ſulphuratum vitreum fuſcum.*	
Oxyd of arſenic, white ſublimated. *Oxydum arſenici album ſublimatum.*	*Flowers of arſenic.*
Oxyd of arſenic, yellow ſulphurated. *Oxydum arſenici ſulphuratum luteum.*	*Orpiment.*

Oxyd

MODERN NAMES.	ANCIENT NAMES.
Oxyd of arsenic, red sulphurated. *Oxydum arsenici sulphuratum rubrum.*	*Red arsenic. Realgar.*
Oxyd of bismuth, white, by the nitric acid. *Oxydum bismuthi album acido nitrico confectum.*	*Magistery of bismuth. Spanish white.*
Oxyd of bismuth sublimated. *Oxydum bismuthi sublimatum.*	*Flowers of bismuth.*
Oxyd of cobalt, grey, with silice. *Oxydum cobalti cinereum cum silice.*	
Oxyd of cobalt; vitreous. *Oxydum cobalti vitreum.*	*Azur. Smalt.*
Oxyd of copper, green. *Oxydum cupri viride.*	*Verdegris. Rust of copper.*
Oxyd of gold, ammoniacal. *Oxydum auri ammoniacale.*	*Aurum fulminans.*
Oxyd of gold by tin. *Oxydum auri per stannum.*	*Precipitate of gold by tin. Cassius's purple.*
Oxyds of iron. *Oxyda ferri.*	*Saffrons of mars.*
Oxyd of iron, brown. *Oxydum ferri fuscum.*	*Astringent saffron of mars.*
Oxyd of iron, yellow. *Oxydum ferri luteum.*	*Ochre.*
Oxyd of iron, black. *Oxydum ferri nigrum.*	*Æthiops of iron.*
Oxyd of iron, red. *Oxydum ferri rubrum.*	*Colcothar of vitriol.*
Oxyds of lead. *Oxyda plumbi.*	*Calces of lead.*
Oxyd of lead, white, by the acetous acid. *Oxydum plumbi album per acidum acetosum.*	*White lead.*
Oxyd of lead, semi-vitreous, or litharge. *Oxydum plumbi semi-vitreum.*	*Litharge.*
Oxyd of lead, yellow. *Oxydum plumbi luteum.*	*Massicot.*
Oxyd of lead, red, or minium. *Oxydum plumbi rubrum.*	*Minium. Red lead.*

Oxyd

MODERN NAMES.	ANCIENT NAMES.
Oxyd of manganefe, white. *Oxydum magnefii album.*	*White calx of manganefe.*
Oxyd of manganefe, black. *Oxydum magnefii nigrum.*	*Black magnefia.*
Oxyd of mercury, yellow, by the nitric acid. *Oxydum hydrargiri luteum acido nitrico confectum.*	*Nitrous turbith.*
Oxyd of mercury, yellow, by the fulphuric acid. *Oxydum hydrargiri luteum acido fulphurico confectum.*	*Turbith mineral.* *Yellow precipitate.*
Oxyd of mercury, blackifh. *Oxydum hydrargiri nigrum.*	*Æthiops* per fe.
Oxyd of mercury, red, by the nitric acid. *Oxydum hydrargiri rubrum acido nitrico confectum.*	*Red precipitate.*
Oxyd of mercury, red, by fire. *Oxydum hydrargiri rubrum per ignem.*	*Mercurius precipitatus* per fe.
Oxyd of mercury, fulphurated black. *Oxydum hydrargiri fulphuratum nigrum.*	*Æthiops mineral.*
Oxyd of mercury fulphurated red. *Oxydum hydrargiri fulphuratum rubrum.*	*Cinnabar.*
Oxyd of tin, grey. *Oxydum ftanni cinereum.*	
Oxyd of tin, fublimated. *Oxydum ftanni fublimatum.*	*Flowers of tin.*
Oxyd of zinc fublimated. *Oxydum zinci fublimatum.*	*Flowers of zinc.* *Pompholix.*
Oxyds metallic. *Oxyda metallica.*	*Calces of metals.*
Oxyds, fublimated metallic. *Oxyda metallica fublimata.*	*Metallic flowers.*
Oxygen. *Oxygenium.*	*Oxygen.* *Bafis of vital air.* *Acidifying principle.* *Empyreal principle.* *Sorbile principle.*

MODERN NAMES.	ANCIENT NAMES.
Phoſphats. *Phoſphas, tis, s. m.*	Salts formed by the union of the phoſphoric acid with different baſes.
Phoſphat of alumine. *Phoſphas aluminoſus.*	
Phoſphat of ammoniac. *Phoſphas ammoniacalis.*	*Phoſphorical ammoniac.* *Ammoniacal phoſphate.*
Phoſphat of antimony. *Phoſphas ſtibii.*	
Phoſphat of arſenic. *Phoſphas arſenicalis.*	
Phoſphat of barytes. *Phoſphas baryticus.*	
Phoſphat of biſmuth. *Phoſphas biſmuthi.*	
Phoſphat of cobalt. *Phoſphas cobalti.*	
Phoſphat of copper. *Phoſphas cupri.*	
Phoſphat of gold. *Phoſphas auri.*	
Phoſphat of iron. *Phoſphas ferri.*	*Syderite.* *Marſh iron ore.*
Phoſphat of lead. *Phoſphas plumbi.*	
Phoſphat of lime. *Phoſphas calcareus.*	*Earth of bones.* *Animal earth.*
Phoſphat of magneſia. *Phoſphas magneſiæ.*	*Phoſphate of magneſia.*
Phoſphat of manganeſe. *Phoſphas magneſii.*	
Phoſphat of mercury. *Phoſphas mercurii.*	*Roſy precipitate of mercury.*
Phoſphat of molybden. *Phoſphas molybdeni.*	
Phoſphat of nickel. *Phoſphas niccoli.*	
Phoſphat of platina. *Phoſphas platini.*	
Phoſphat of potaſh. *Phoſphas potaſſæ.*	
Phoſphat of ſilver. *Phoſphas argenti.*	
Phoſphat of ſoda. *Phoſphas ſodæ.*	
Phoſphat of ſoda and ammoniac *Phoſphas ſodæ et ammoniacalis.*	*Native ſalt of urine.* *Fuſible ſalt of urine.*

MODERN NAMES.	ANCIENT NAMES.
Phoſphat ſurſaturated with ſoda. *Phoſphas ſuperſaturatus ſodæ.*	*Wonderful pearly ſalt.*
Phoſphat of tin. *Phoſphas ſtanni.*	
Phoſphat of tunſtein. *Phoſphas tunſteni.*	
Phoſphat of zinc. *Phoſphas zinci.*	
Phoſphites. *Phoſphis, tis, s. m.*	Salts formed by the combination of the phoſphorous acid with different baſes.
Phoſphite of alumine. *Phoſphis aluminoſus.*	
Phoſphite of ammoniac. *Phoſphis ammoniacalis.*	
Phoſphite of antimony. *Phoſphis ſtibii.*	
Phoſphite of arſenic. *Phoſphis arſenicalis.*	
Phoſphite of barytes. *Phoſphis baryticus.*	
Phoſphite of biſmuth. *Phoſphis biſmuthi.*	
Phoſphite of cobalt. *Phoſphis cobalti.*	
Phoſphite of copper. *Phoſphis cupri.*	
Phoſphite of gold. *Phoſphis auri.*	
Phoſphite of iron. *Phoſphis ferri.*	
Phoſphite of lead. *Phoſphis plumbi.*	
Phoſphite of lime. *Phoſphis calcareus.*	
Phoſphite of magneſia. *Phoſphis magneſiæ.*	
Phoſphite of mangaueſe. *Phoſphis magneſii.*	
Phoſphite of mercury. *Phoſphis hydrargiri.*	
Phoſphite of molybden. *Phoſphis molybdeni.*	
Phoſphite of nickel. *Phoſphis niccoli.*	
Phoſphite of platina. *Phoſphis platini.*	
Phoſphite of potaſh. *Phoſphis potaſſæ.*	

MODERN NAMES.	ANCIENT NAMES.
Phoſphite of ſilver. *Phoſphis argenti.*	
Phoſphite of ſoda. *Phoſphis ſodæ.*	
Phoſphite of tin. *Phoſphis ſtanni.*	
Phoſphite of tunſtein. *Phoſphis tunſteni.*	
Phoſphite of zinc. *Phoſphis zinci.*	
Phoſphorus. *Phoſphorum.*	*Phoſphorus of Kunkel.*
Phoſphuret. *Phoſphoretum.*	Combination of phoſphorus not oxygenated with different baſes.
Phoſphuret of copper. *Phoſphoretum cupri.*	
Phoſphuret of iron. *Phoſphoretum ferri.*	*Syderum*, of Bergman. *Syderotete*, of Mr. de Morveau. *Regulus of ſyderite.*
Pyro-lignites. *Pyro-lignis, tis, s. m.*	Salts formed by the union of the pyro-lignic acid with different baſes. Theſe ſalts had no names in the ancient nomenclature.
Pyrolignite of alumine. *Pyrolignis aluminoſus.*	
Pyrolignite of ammoniac. *Pyrolignis ammoniacalis.*	
Pyrolignite of antimony. *Pyrolignis ſtibii.*	
Pyrolignite of arſenic. *Pyrolignis arſenicalis.*	
Pyrolignite of barytes. *Pyrolignis baryticus.*	
Pyrolignite of biſmuth. *Pyrolignis biſmuthi.*	
Pyrolignite of cobalt. *Pyrolignis cobalti.*	
Pyrolignite of copper. *Pyrolignis cupri.*	
Pyrolignite of gold. *Pyrolignis auri.*	
Pyrolignite of iron. *Pyrolignis ferri.*	
Pyrolignite of lead. *Pyrolignis plumbi.*	

MODERN NAMES.	ANCIENT NAMES.
Pyrolignite of lime.	
Pyrolignis calcareus.	
Pyrolignite of magnefia.	
Pyrolignis magnefiæ.	
Pyrolignite of manganefe.	
Pyrolignis magnefii.	
Pyrolignite of mercury.	
Pyrolignis mercurii.	
Pyrolignite of molybden.	
Pyrolignis molybdeni.	
Pyrolignite of nickel.	
Pyrolignis niccoli.	
Pyrolignite of platina.	
Pyrolignis platini.	
Pyrolignite of potafh.	
Pyrolignis potaffæ.	
Pyrolignite of filver.	
Pyrolignis argenti.	
Pyrolignite of foda.	
Pyrolignis fodæ.	
Pyrolignite of tin.	
Pyrolignis ftanni.	
Pyrolignite of tunftein.	
Pyrolignis tunfteni.	
Pyrolignite of zinc.	
Pyrolignis zinci.	
Pyromucites. *Pyromucis, tis, s. m.*	Salts formed by the union of the pyro-mucic acid with different bafes. This genus of falts had no name in the ancient nomenclature.
Pyromucite of alumine.	
Pyromucis aluminofus.	
Pyromucite of ammoniac.	
Pyromucis ammoniacalis.	
Pyromucite of antimony.	
Pyromucis ftibii.	
Pyromucite of arfenic.	
Pyromucis arfenicalis.	
Pyromucite of barytes.	
Pyromuciis baryticus.	
Pyromucite of bifmuth.	
Pyromucis bifmuthi.	
Pyromucite of cobalt.	
Pyromucis cobalti.	
Pyromucite of copper.	
Pyromucis cupri.	

MODERN NAMES.	ANCIENT NAMES.
Pyromucite of gold. *Pyromucis auri.*	
Pyromucite of iron. *Pyromucis ferri.*	
Pyromucite of lead. *Pyromucis plumbi.*	
Pyromucite of lime. *Pyromucis calcareus.*	
Pyromucite of magnefia. *Pyromucis magnefiæ.*	
Pyromucite of manganefe. *Pyromucis magnefii.*	
Pyromucite of mercury. *Pyromucis mercurii.*	
Pyromucite of molybden. *Pyromucis molybdeni.*	
Pyromucite of nickel. *Pyromucis niccoli.*	
Pyromucite of platina. *Pyromucis platini.*	
Pyromucite of potafh. *Pyromucis potaffæ.*	
Pyromucite of filver. *Pyromucis argenti.*	
Pyromucite of foda. *Pyromucis fodæ.*	
Pyromucite of tin. *Pyromucis ftanni.*	
Pyromucite of tunftein. *Pyromucis tunfteni.*	
Pyromucite of zinc. *Pyromucis zinci.*	
Pyrotartrites. *Pyrotartris, tis, s. m.*	Salts formed by the combination of the pyrotartareous acid with different bafes.
Pyrotartrite of alumine. *Pyrotartris aluminofus.*	
Pyrotartrite of ammoniac. *Pyrotartris ammoniaci.*	
Pyrotartrite of antimony. *Pyrotartris ftibii.*	
Pyrotartrite of arfenic. *Pyrotartris arfenici.*	
Pyrotartrite of barytes. *Pyrotartris baryticus.*	
Pyrotartrite of bifmuth. *Pyrotartris bifmuthi.*	

MODERN NAMES.	ANCIENT NAMES.
Pyrotartrite of cobalt. *Pyrotartris cobalti.*	
Pyrotartrite of copper. *Pyrotartris cupri.*	
Pyrotartrite of gold. *Pyrotartris auri.*	
Pyrotartrite of iron. *Pyrotartris ferri.*	
Pyrotartrite of lead. *Pyrotartris plumbi.*	
Pyrotartrite of lime. *Pyrotartris calcareus.*	
Pyrotartrite of magnefia. *Pyrotartris magnefiæ.*	
Pyrotartrite of manganefe. *Pyrotartris magnefii.*	
Pyrotartrite of mercury. *Pyrotartris hydrargiri.*	
Pyrotartrite of molybden. *Pyrotartris molybdeni.*	
Pyrotartrite of nickel. *Pyrotartris niccoli.*	
Pyrotartrite of platina. *Pyrotartris platini.*	
Pyrotartrite of potafh. *Pyrotartris potaffæ.*	
Pyrotartrite of filver. *Pyrotartris argenti.*	
Pyrotartrite of foda. *Pyrotartris fodæ.*	
Pyrotartrite of tin. *Pyrotartris ftanni.*	
Pyrotartrite of tunftein. *Pyrotartris tunfteni.*	
Pyrotartrite of zinc. *Pyrotartris zinci.*	
Platina. *Platina.*	*Juan blancà.* *Platina.* *White gold.* *Platina del pinto.*
Potafh. *Potaffa, æ.*	*Cauftic vegetable fixed alkali.*
Potafh molten. *Potaffa fufa.*	*Common cauftic. Potential cautery.* *Infernal, or feptic ftone.*
Potafh, filiciated, in liquidity. *Potaffa filicea fluida.*	

ANCIENT NAMES.	MODERN NAMES.
Pruſſiats. *Pruſſias, tis, s. m.*	Salts formed by the union of the Pruſſic acid, or colouring matter of Pruſſian blue, with different baſes. This genus of ſalts had no name in the old nomenclature.
Pruſſiat of alumine. *Pruſſias aluminoſus.*	
Pruſſias of ammoniac. *Pruſſias ammoniacalis.*	
Pruſſiat of antimony. *Pruſſias antimonii.*	
Pruſſiat of ſilver. *Pruſſias arſenicalis.*	
Pruſſiat of barytes. *Pruſſias baryticus.*	
Pruſſiat of biſmuth. *Pruſſias biſmuthi.*	
Pruſſiat of cobalt. *Pruſſias cobalti.*	
Pruſſiat of copper. *Pruſſias cupri.*	
Pruſſiat of gold. *Pruſſias auri.*	
Pruſſiat of iron. *Pruſſias ferri.*	*Pruſſian blue.* *Berlin blue.*
Pruſſiat of lead. *Pruſſias plumbi.*	
Pruſſiat of lime. *Pruſſias calcareus.*	*Calcareous pruſſiate.* *Lime-water of Pruſſian blue.*
Pruſſiat of magneſia. *Pruſſias magneſiæ.*	
Pruſſiat of manganeſe. *Pruſſias magneſii.*	
Pruſſiat of mercury. *Pruſſias hydrargiri.*	
Pruſſiat of molybden. *Pruſſias molybdeni.*	
Pruſſiat of nickel. *Pruſſias niccoli.*	
Pruſſiat of platina. *Pruſſias platini.*	
Pruſſiat of potaſh. *Pruſſias potaſſæ.*	Liquor ſaturated with the colouring matter of Pruſſian blue.

MODERN NAMES.	ANCIENT NAMES.
Pruffiat of potafh, faturated ferruginous. *Pruffias potaffæ ferruginofus faturatus.*	*Pruffian alkali.*
Pruffiat of potafh ferruginous, not faturated. *Pruffias potaffæ ferrugineus, non faturatus.*	*Phlogifticated alkali.*
Pruffiat of filver. *Pruffias argenti.*	
Pruffiat of foda. *Pruffias fodæ.*	
Pruffiat of tin. *Pruffias ftanni.*	
Pyrophore of Homberg. *Pyrophorum Hombergii.*	*Pyrophorus of Homberg.*
Refins. *Refinæ.*	*Refins.*
Saccholats. *Saccholas, tis, s. m.*	Salts formed by the combination of the faccho-lactic acid with different bafes. This genus of falts had no name in the ancient nomenclature.
Saccholat of alumine. *Saccholas aluminofus.*	
Saccholat of ammoniac. *Saccholas ammoniacalis.*	
Saccholat of antimony. *Saccholas ftibii.*	
Saccholat of arfenic. *Saccholas arfenicalis.*	
Saccholat of barytes. *Saccholas baryticus.*	
Saccholat of bifmuth. *Saccholas bifmuthi.*	
Saccholat of cobalt. *Saccholas cobalti.*	
Saccholat of copper. *Saccholas cupri.*	
Saccholat of gold. *Saccholas auri.*	
Saccholat of iron. *Saccholas ferri.*	

MODERN NAMES.	ANCIENT NAMES.
Saccholat of lead. *Saccholas plumbi.*	
Saccholat of lime. *Saccholas calcareus.*	
Saccholat of magnesia. *Saccholas magnesiæ.*	
Saccholat of manganese. *Saccholas magnesii.*	
Saccholat of mercury. *Saccholas hydrargiri.*	
Saccholat of molybden. *Saccholas molybdeni.*	
Saccholat of nickel. *Saccholas niccoli.*	
Saccholat of platina. *Saccholas platini.*	
Saccholat of potash. *Saccholas potassæ.*	
Saccholat of silver. *Saccholas argenti.*	
Saccholat of soda. *Saccholas sodæ.*	
Saccholat of tin. *Saccholas stanni.*	
Saccholat of tunstein. *Saccholas tunsteni.*	
Saccholat of zinc. *Saccholas zinci.*	
Saponuls. *Saponuli.*	Combinations of the volatile, or essential oils, with different bases.
Saponuls acid.	Combinations of the volatile, or essential oils, with the different acids.
Saponuls metallic. *Saponuli metallici.*	Soaps composed of the essential oils united to metallic substances.
Saponul of alumine. *Saponulus aluminosus.*	Soap made of essential oil united to the basis of alum.
Saponul ammoniacal. *Saponulus ammoniacalis.*	Soap made of essential oil united to the volatile alkali.
Saponul of barytes. *Saponulus barytæ.*	Soap made of essential oil united to barytes.
Saponul of lime. *Saponulus calcareus.*	Soap made of essential oil united to lime.
Saponul of potash. *Saponulus potassæ.*	Soap composed of essential oil united to vegetable fixed alkali, or *Starkey's soap.*

MODERN NAMES.	ANCIENT NAMES.
Saponul of ſodæ. *Saponulus ſodæ.*	Soap compoſed of eſſential oil united to mineral fixed alkali.
Sebats. *Sebas, tis, s. m.*	Salts formed by the combination of the acid of fat with different baſes. These ſalts had no names in the ancient nomenclature.
Sebat of alumine. *Sebas aluminoſus.*	
Sebat of ammoniac. *Sebas ammoniacalis.*	
Sebat of antimony. *Sebas ſtibii.*	
Sebat of arſenic. *Sebas arſenicalis.*	
Sebat of barytes. *Sebas baryticus.*	
Sebat of biſmuth. *Sebas biſmuthi.*	
Sebat of cobalt. *Sebas cobalti.*	
Sebat of copper. *Sebas cupri.*	
Sebat of gold. *Sebas auri.*	
Sebat of iron. *Sebas ferri.*	
Sebat of lead. *Sebas plumbi.*	
Sebat of lime. *Sebas calcareus.*	
Sebat of magneſia. *Sebas magneſiæ.*	
Sebat of mangaueſe. *Sebas magneſii.*	
Sebat of mercury. *Sebas hydrargiri.*	
Sebat of molybden. *Sebas molybdeni.*	
Sebat of nickel. *Sebas niccoli.*	
Sebat of platina. *Sebas platini.*	
Sebat of potaſh. *Sebas potaſſæ.*	

MODERN NAMES.	ANCIENT NAMES.
Sebat of ſilver. *Sebas argenti.*	
Sebat of ſoda. *Sebas ſodæ.*	
Sebat of tin. *Sebas ſtanni.*	
Sebat of tunſtein. *Sebas tunſteni.*	
Sebat of zinc. *Sebas zinci.*	
Silice, or ſiliceous earth. *Silica, terra ſilicea.*	*Siliceous earth.*
Soda. *Soda.*	*Cauſtic ſoda.* *Marine alkali.* *Mineral alkali.*
Soaps. *Sapones.*	Combinations of unctuous, or fixed oils, with different baſes.
Soaps acid. *Sapones acidi.*	Combinations of unctuous, or fixed oils, with different acids.
Soaps metallic. *Sapones metallici.*	Combinations of unctuous, or fixed oils, with metallic ſubſtances.
Soap of alumine. *Sapo aluminoſus.*	Soap compoſed of unctuous oil united to the baſis of alum.
Soap of ammoniac, or ammoniacal. *Sapo ammoniacalis.*	Soap compoſed of unctuous oil united to volatile alkali.
Soap of barytes. *Sapo baryticus.*	Soap compoſed of unctuous oil united to barytes.
Soap of lime. *Sapo calcareus.*	Soap compoſed of unctuous oil united to lime.
Soap of magneſia. *Sapo magneſiæ.*	Soap compoſed of unctuous oil united to magneſia.
Soap of potaſh. *Sapo potaſſæ.*	Soap compoſed of unctuous oil united to vegetable fixed alkali.
Soap of ſoda. *Sapo ſodæ.*	Soap compoſed of unctuous oil united to mineral fixed alkali.
Succinats. *Succinas, tis, s. m.*	Salts formed by the combination of the acid of amber, or ſuccinic acid with different baſes.
Succinat of alumine. *Succinas aluminoſus.*	
Succinat of ammoniac. *Succinas ammoniacalis.*	
Succinat of antimony. *Succinas ſtibii.*	

MODERN NAMES.	ANCIENT NAMES.
Succinat of arsenic. *Succinas arsenicalis.*	
Succinat of barytes. *Succinas baryticus.*	
Succinat of bismuth. *Succinas bismuthi.*	
Succinat of cobalt. *Succinas cobalti.*	
Succinat of copper. *Succinas cupri.*	
Succinat of gold. *Succinas auri.*	
Succinat of iron. *Succinas ferri.*	
Succinat of lead. *Succinas plumbi.*	
Succinat of lime. *Succinas calcareus.*	
Succinat of magnesia. *Succinas magnesiæ.*	
Succinat of manganese. *Succinas magnesii.*	
Succinat of mercury. *Succinas hydrargiri.*	
Succinat of molybden. *Succinas molybdeni.*	
Succinat of nickel. *Succinas niccoli.*	
Succinat of platina. *Succinas platini.*	
Succinat of potash. *Succinas potassæ.*	
Succinat of silver. *Succinas argenti.*	
Succinat of soda. *Succinas sodæ.*	
Succinat of tin. *Succinas stanni.*	
Succinat of tunstein. *Succinas tunsteni.*	
Succinat of zinc. *Succinas zinci.*	
Succinum, or amber. *Succinum.*	*Yellow amber.*
Sugar. *Saccharum.*	*Sugar.*

MODERN NAMES.	ANCIENT NAMES.
Sugar chryſtallized. *Saccharum cryſtalliſatum.*	*Sugar candied.*
Sugar of milk. *Saccharum lactis.*	*Sugar of milk.* *Salt of milk.*
Sulphats. *Sulphas, tis, s. m.*	Salts formed by the combination of the ſulphuric acid with different baſes.
Sulphat of alumine. *Sulphas aluminoſus.*	*Alum.* *Super-vitriolated clay.*
Sulphat of ammoniac. *Sulphas ammoniacalis.*	*Glauber's ſecret ammoniacal ſalt.* *Ammoniacal vitriol.*
Sulphat of antimony. *Sulphas ſtibii.*	*Vitriol of antimony.*
Sulphat of arſenic. *Sulphas arſenicalis.*	*Vitriol of arſenic.*
Sulphat of barytes. *Sulphas baryticus.*	*Ponderous ſpar.* *Baroſelenite.*
Sulphat of biſmuth. *Sulphas biſmuthi.*	*Vitriol of biſmuth.*
Sulphat of cobalt. *Sulphas cobalti.*	*Vitriol of cobalt.*
Sulphat of copper. *Sulphas cupri.*	*Roman vitriol. Blue ſtone.* *Super-vitriolated copper.*
Sulphat of iron. *Sulphas ferri.*	*Green copperas.* *Salt of ſteel.* *Super-vitriolated iron.*
Sulphat of gold. *Sulphas auri.*	
Sulphat of lead. *Sulphas plumbi.*	*Vitriol of lead.*
Sulphat of lime. *Sulphas calcareus.*	*Vitriolated lime.* *Selenite.* *Gypſum.* *Plaſter of Paris.*
Sulphat of manganeſia. *Sulphas magneſiæ.*	*Vitriolated magneſia.* *Bitter purging ſalt.* *Sedlitz ſalt.* *Epſom ſalt.* *Seydſchutz ſalt.*
Sulphat of manganeſe. *Sulphas magneſii.*	*Vitriol of manganeſe.*
Sulphat of mercury. *Sulphas hydrargiri.*	*Super-vitriolated mercury.* *Vitriol of mercury.*
Sulphat of molybden. *Sulphas molybdeni.*	
Sulphat of nickel. *Sulphas niccoli.*	

MODERN NAMES.	ANCIENT NAMES.
Sulphat of platina. *Sulphas platini.*	
Sulphat of potaſh. *Sulphas potaſſæ.*	*Vitriolated vegetable alkali. Sal enixus de duobus. Vitriolated tartar. Arcanum duplicatum. Glaſer's ſal polychreſt. Vitriol of potaſh.*
Sulphat of ſilver. *Sulphas argenti.*	*Vitriol of ſilver.*
Sulphat of ſoda. *Sulphas ſodæ.*	*Glauber's ſalt. Vitriol of ſoda.*
Sulphat of tin. *Sulphas ſtanni.*	*Vitriol of tin.*
Sulphat of tunſtein. *Sulphas tunſteni.*	
Sulphat of zinc. *Sulphas zinci.*	*White vitriol, or copperas. Vitriol of zinc. Vitriol of Goſlar.*
Sulphite. *Sulphis, tis, s. m.*	Salts formed by the combination of the ſulphureous acid with different baſes.
Sulphite of alumine. *Sulphis aluminoſus.*	
Sulphite of ammoniac. *Sulphis ammoniacalis.*	
Sulphite of antimony. *Sulphis ſtibii.*	
Sulphite of arſenic. *Sulphis arſenicalis.*	
Sulphite of barytes. *Sulphis baryticus.*	
Sulphite of biſmuth. *Sulphis biſmuthi.*	
Sulphite of cobalt. *Sulphis cobalti.*	
Sulphite of copper. *Sulphis cupri.*	
Sulphite of gold. *Sulphis auri.*	
Sulphite of iron. *Sulphis ferri.*	
Sulphite of lead. *Sulphis plumbi.*	
Sulphite of lime. *Sulphis calcareus.*	

Sulphite

MODERN NAMES.	ANCIENT NAMES.
Sulphite of magnefia. *Sulphis magnefiæ.*	
Sulphite of manganefe. *Sulphis magnefii.*	
Sulphite of mercury. *Sulphis hydrargiri.*	
Sulphite of molybden. *Sulphis molybdeni.*	
Sulphite of nickel. *Sulphis niccoli.*	
Sulphite of platina. *Sulphis platini.*	
Sulphite of potafh. *Sulphis potaffæ.*	*Stahl's fulphureous falt.*
Sulphite of filver. *Sulphis argenti.*	
Sulphite of foda. *Sulphis fodæ.*	
Sulphite of tin. *Sulphis ftanni.*	
Sulphite of tunftein. *Sulphis tunfteni.*	
Sulphite of zinc. *Sulphis zinci.*	
Sulphur. *Sulphur.*	*Sulphur.*
Sulphur fublimated. *Sulphur fublimatum.*	*Flowers of fulphur.*
Sulphurets alkaline. *Sulphureta alkalina.*	*Alkaline livers of fulphur. Alkaline hepars. Sulphur-calies.*
Sulphurets earthy. *Sulphureta terrea.*	*Earthy livers of fulphur. Earthy hepars.*
Sulphurets metallic. *Sulphureta metallica.*	Combinations of fulphur with the metals.
Sulphuret of alumine. *Sulphuretum aluminæ.*	
Sulphuret of ammoniac. *Sulphuretum ammoniacale.*	*Boyle's fmoking liquor. Volatile alkaline liver of fulphur.*
Sulphuret of antimony. *Sulphuretum ftibii.*	*Antimony.*
Sulphuret of antimony, native. *Sulphuretum ftibii nativum.*	*Ore of antimony.*
Sulphuret of barytes. *Sulphuretum barytæ.*	*Liver of fulphur of barytes.*
Sulphuret of bifmuth. *Sulphuretum bifmuthi.*	

Sulphuret

MODERN NAMES.	ANCIENT NAMES.
Sulphuret of cobalt. *Sulphuretum cobalti.*	
Sulphuret of copper. *Sulphuretum cupri.*	*Pyrites of copper.*
Sulphuret of gold. *Sulphuretum auri.*	
Sulphuret of iron. *Sulphuretum ferri.*	*Martial pyrites.*
Sulphuret of fixed oil. *Sulphuretum olei fixi.*	*Balsam of sulphur.*
Sulphuret of volatile oil. *Sulphuretum olei volatilis.*	*Balsam of sulphur.*
Sulphuret of lead. *Sulphuretum plumbi.*	
Sulphuret of magnesia. *Sulphuretum magnesiæ.*	*Magnesian liver of sulphur.*
Sulphuret of manganese. *Sulphuretum magnesii.*	
Sulphuret of mercury. *Sulphuretum hydrargiri.*	
Sulphuret of molybden. *Sulphuretum molybdeni.*	
Sulphuret of nickel. *Sulphuretum niccoli.*	
Sulphuret of platina. *Sulphuretum platini.*	
Sulphuret of potash. *Sulphuretum potassæ.*	Liver of sulphur, having for basis the vegetable alkali.
Sulphuret of potash antimoniated. *Sulphuretum potassæ stibiatum.*	*Antimoniated liver of sulphur.*
Sulphuret of silver. *Sulphuretum argenti.*	*Blanckmal.*
Sulphuret of soda. *Sulphuretum sodæ.*	Liver of sulphur, having for basis the mineral alkali.
Sulphuret of soda antimoniated. *Sulphuretum sodæ stibiatum.*	*Antimoniated liver of sulphur.*
Sulphuret of tin. *Sulphuretum stanni.*	
Sulphuret of tunstein. *Sulphuretum tunsteni.*	
Sulphuret of zinc. *Sulphuretum zinci.*	*Blende, or factitious galena.*
Tartar. *Tartarus.*	*Crude tartar.*

MODERN NAMES.	ANCIENT NAMES.
Tartrites. *Tartris, tis, s. m.*	Salts formed by the combination of the tartareous acid with different bafes.
Tartrite acidulous of potafh. *Tartris acidulous potaffæ.*	*Tartar. Supertartarifed vegetable alkali.* *Cream of tartar.* *Cryftals of tartar.*
Tartrite of alumine. *Tartris aluminofus.*	
Tartrite of ammoniac. *Tartris ammoniacalis.*	*Ammoniacal tartar.*
Tartrite of antimony. *Tartris ftibii.*	
Tartrite of arfenic. *Tartris arfenicalis.*	
Tartrite of barytes. *Tartris baryticus.*	
Tartrite of bifmuth. *Tartris bifmuthi.*	
Tartrite of cobalt. *Tartris cobalti.*	
Tartrite of copper. *Tartris cupri.*	
Tartrite of gold. *Tartris auri.*	
Tartrite of iron. *Tartris ferri.*	
Tartrite of lime. *Tartris calcareus.*	*Calcareous tartar.*
Tartrite of lead. *Tartris plumbi.*	*Saturnike tartar.*
Tartrite of magnefia. *Tartris magnefiæ.*	
Tartrite of manganefe. *Tartris magnefii.*	
Tartrite of mercury. *Tartris hydrargiri.*	
Tartrite of molybden. *Tartris molybdeni.*	
Tartrite of nickel. *Tartris niccoli.*	
Tartrite of platina. *Tartris platini.*	
Tartrite of potafh. *Tartris potaffæ.*	*Tartarifed tartar.* *Soluble tartar.* *Vegetable falt.*

MODERN NAMES.	ANCIENT NAMES.
Tartrite of potaſh antimoniated. *Tartris potaſſæ ſtibiatus.*	*Emetic tartar.* *Antimoniated tartar.*
Tartrite of potaſh, ferruginous. *Tartris potaſſæ ferrugineus.*	*Chalybiated tartar.* *Soluble martial tartar.*
Tartrite of potaſh, ſurcompounded with antimony. *Tartris potaſſæ ſtibiatus.*	*Tartariſed tartar, containing antimony.*
Tartrite of ſilver. *Tartris argenti.*	
Tartrite of ſoda. *Tartris ſodæ.*	*Rochelle ſalt.* *Seignette's polychreſt ſalt.* *Tartariſed ſoda.*
Tartrite of tin. *Tartris ſtanni.*	
Tartrite of tunſtein. *Tartris tunſteni.*	
Tartrite of zinc. *Tartris zinci.*	
Tin. *Stannum.*	*Tin.* *Jupiter.*
Tunſtats. *Tunſtas, tis, s. m.*	Salts formed by the combination of the tunſtic acid, with different baſes. Theſe ſalts had no name in the ancient nomenclature.
Tunſtat of alumine. *Tunſtas aluminoſus.*	
Tunſtat of ammoniac. *Tunſtas ammoniacalis.*	
Tunſtat of antimony. *Tunſtas ſtibii.*	
Tunſtat of arſenic. *Tunſtas arſenicalis.*	
Tunſtat of barytes. *Tunſtas baryticus.*	
Tunſtat of biſmuth. *Tunſtas biſmuthi.*	
Tunſtat of cobalt. *Tunſtas cobalti.*	
Tunſtat of copper. *Tunſtas cupri.*	
Tunſtas of gold. *Tunſtas auri.*	
Tunſtat of iron. *Tunſtas ferri.*	
Tunſtat of lead. *Tunſtas plumbi.*	

MODERN NAMES.	ANCIENT NAMES.
Tunſtat of lime.	
Tunſtas calcareus.	
Tunſtat of magneſia.	
Tunſtas magneſiæ.	
Tunſtat of manganeſe.	
Tunſtas magneſii.	
Tunſtat of mercury.	
Tunſtas hydrargiri.	
Tunſtat of molybden.	
Tunſtas molybdeni.	
Tunſtat of nickel.	
Tunſtas niccoli.	
Tunſtat of platina.	
Tunſtas platini.	
Tunſtat of potaſh.	
Tunſtas potaſſæ.	
Tunſtat of ſilver.	
Tunſtas argenti.	
Tunſtat of ſoda.	
Tunſtas ſodæ.	
Tunſtat of tin.	
Tunſtas ſtanni.	
Tunſtat of tunſtein.	
Tunſtas tunſteni.	
Tunſtat of zinc.	
Tunſtas zinci.	
Waters impregnated with the carbonic acid.	*Acidulated waters.* *Gazeous waters.*
Waters ſulphurated.	*Hepatic waters.*
Zinc.	*Zinc.*

The Reader will see from this long List what Chemistry offers; and our experiments, with even a few new substances, evince how much yet remains to be explored.

INDEX

NOMINUM MUTATORUM.

OLEA.

PHARM. LONDIN.	NOV. NOMENCLAT.
Olea expreſſa.	Olea fixa.
—— eſſentialia.	—— volatilia.
Oleum animale.	Oleum animale volatile.

SALES.

Acidum diſtillatum.	Acidum acetoſum.
——— acetoſum.	——— aceticum.
——— muriaticum.	——— muriaticum.
——— nitroſum.	——— nitricum.
——— vitriolicum.	——— ſulphuricum.
Flores Benzoes.	——— benzoicum ſublimatum.
Sal ſuccini purificatus.	——— ſuccinicum ſublimatum.
Ammonia præparata.	Carbonas Ammoniacæ.
Aqua Ammoniæ puræ.	Ammoniaca.
Kali præparatum.	Carbonas potaſſæ.
Aqua Kali.	Potaſſa Carbonatæ potaſſæ.
—— Kali puri.	Potaſſa.
Kali purum.	Potaſſa fuſa.
Calx cum Kali puro.	——— cum Calce.
Natron præparatum.	Carbonas Sodæ.
Aqua Ammoniæ acetatæ.	Acetis ammoniacalis.
Kali acetatum.	——— Potaſſæ.
—— tartariſatum.	Tartris Potaſſæ.
—— vitriolatum.	Sulphas Potaſſæ.
Natron tartariſatum.	Tartris ſodæ.
——— vitriolatum.	Sulphas ſodæ.
——— muriaticum ſive Sal muriaticus.	Murias ſodæ.
Nitrum purificatum.	Nitras Potaſſæ, Nitrum.
Alumen.	Sulphas aluminæ ſive aluminoſus.
Magneſia vitriolata.	——— Magneſiæ.
——— alba.	Carbonas magneſiæ.

PRÆPARATA

PRÆPARATA E SULPHURE.

PHARM. LONDIN.	NOV. NOMENCLAT.
Flores ſulphuris.	Sulphur ſublimatum.
Kali ſulphuratum.	Sulphuretum alkalinum.
Sulphur præcipitatum.	Sulphur ſublimatum.
Oleum ſulphuratum.	Sulphuretum olei fixi.

PRÆPARATA EX ANTIMONIO.

Antimonium.	Sulphuretum antimonii.
Antimonium calcinatum.	Oxydum Stibii album nitro confectum.
——— muriatum.	Murias Stibii.
——— tartariſatum.	Tartris potaſſæ ſtibiatus.
——— vitrificatum.	Oxydum Stibii ſulphuratum vitreum.
Crocus Antimonii.	Oxydum Stibii ſulphuratum ſemivitreum.
Sulphur Antimonii præcipitatum.	Oxydum Stibii ſulphuratum aurantium.

PRÆPARATA EX ARGENTO.

Argentum nitratum.	Nitras Argenti fuſus.

PRÆPARATA E FERRO.

Ferrum ammoniacale.	Ferrum ammoniacale ſublimatum.
Ferri Rubigo.	Carbonas Ferri.
Ferrum tartariſatum.	Tartris acidulus Ferri.
——— vitriolatum.	Sulphas Ferri.

PRÆPARATA EX HYDRARGYRO.

Hydrargyrus acetatus.	Acetis Hydrargiri.
——— calcinatus.	Oxydum Hydrargiri rubrum per ignem.
——— muriatus.	Murias Hydrargiri corroſivus.
Calomelas.	——— ſublimatus.
Calx Hydrargyri alba.	——— Hydrargiri.

PHARM. LONDIN.	NOV. NOMENCLAT.
Hydrargyrus muriatus mitis.	———— dulcis.
———— cum ſulphure.	Oxydum Hydrargiri ſulphuratum nigrum.
———— ſulphuratus ruber	Oxydum Hydrargiri ſulphuratum rubrum.
———— nitratus ruber.	Oxydum Hydrargiri rubrum acido nitrico confectum.
———— vitriolatus.	Oxydum Hydrargiri luteum acido ſulphurico confectum.

PRÆPARATA E PLUMBO.

Plumbum uſtum.	Oxydum Plumbi.
Minium.	———— rubrum.
Lithargyrus.	———— ſemivitreum.
Ceruſſa.	Oxydum Plumbi album per acidum acetoſum.
Ceruſſa acetata.	Acetis Plumbi.
Aqua Lithargyri acetata.	———— Lithargiri.

PRÆPARATUM E STANNO.

Stannum pulveratum.	Oxydum Stanni cinereum.

PRÆPARATA E ZINCO.

Zincum calcinatum.	Oxydum Zinci ſublimatum.
———— vitriolatum.	Sulphas Zinci.

Spiritus diſtillatus.	Alcohol.
Tinctura Aloës.	Alcohol Aloës, &c.
Æther vitriolicus.	Æther ſulphuricum.
———— nitroſus.	———— nitricum.

TABULA

TABULA OSTENDENS

QUA RATIONE HYDRARGYRUS ET OPIUM IN MEDICAMENTIS COMPOSITIS CONTINENTUR.

PULVIS e creta compoſitus cum opio in granis circiter 43 continet opii granum unum.

Pulvis ipecacuanhæ compoſitus in granis decem continet opii granum unum.

Pulvis opiatus in granis decem continet opii granum unum.

Pulvis e ſcammonio cum calomelane in granis quatuor continet calomelanos granum unum.

Pilulæ ex opio in granis quinque continet opii granum unum.

Pilulæ ex hydrargyro in granis decem continet hydrargyri granas quatuor.

Confectio opiata in granis 36 continet opii granum unum.

Emplaſtrum ammoniaci cum hydrargyro in unciis quinque continet hydrargyri unciam unam.

Emplaſtrum lithargyri cum hydrargyro in unciis quinque continet hydrargyri unciam nnam.

Unguentum hydrargyri fortius in drachmis duabus continet hydrargyri drachmam unam.

Unguentum hydrargyri mitius in drachmis ſex continet hydrargyri drachman unam.

Unguentum hydrargyri nitrati in drachma una continet hydrargyri nitrati grana duodecim.

Unguentum calcis hydrargyri albæ in drachma una continet calcis hydrargyri albæ grana quatuor cum ſemiſſe.

FINIS.

C. WHITTINGHAM, *Printer*,
Dean Street, Fetter Lane, London.

TABLE I. *EXHIBITING AT ONE VIEW THE NEW SYSTEM, AND CHEMICAL NOMENCLATURE,*

PROPOSED BY MESSRS. DE MORVEAU, LAVOISIER, BERTHOLET, AND DE FOURCROY, IN MAY, 1787.

ACIDIFIABLE BASES.

No.	I. THE SUBSTANCES NOT DECOMPOUNDED.		II. CONVERTED INTO THE STATE OF GAS BY CALORIC.		III. COMBINED WITH OXYGEN, AND PRODUCING ACIDS.		IV. OXYGENATED AND CONVERTED INTO THE STATE OF GAS.		V. OXYGENATED WITH THEIR BASES.		VI. COMBINED WITHOUT BEING ACIDIFIED.		No.
	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	
1	Light	....	....	....	....	....	....	....	....	....	....	....	1
2	Caloric	*Latent heat, or matter of heat.*	....	....	....	....	....	....	....	....	....	....	2
3	Oxygen	*The base of vital air.*	Oxygenous gas. N. B. It appears that light contributes to the reduction of oxygen into a gazeous state.	*Dephlogisticated or vital air.*	....	....	....	....	....	....	....	....	3
4	Hydrogen	*The base of inflammable gas.*	Hydrogenous gas.	*Inflammable gas.*	Water.	*Water.*	....	....	....	....	....	....	4
5	Azot, or the radical principle of the nitric acid.	*The base of phlogisticated air, or of atmospheric mephitis.*	Azotic gas........	*Phlogisticated air, atmospheric mephitis, or bad air.*	The base of nitrous gas. Nitric acid. *With an excess of azot.* Nitrous acid.	*The base of nitrous gas.* *White nitrous acid.* *Fuming nitrous acid.*	Nitrous gas. .... Nitrous acid gas.	....	Nitrat of potash. of soda, &c. Nitrite of potash.	*Common nitre.* *Cubic nitre.*	....	....	5
6	Carbon, or the radical principle of the carbonic acid.	*Pure coal.*	....	....	Carbonic acid.	*Fixed air, or cretaceous acid.*	Carbonic acid gas.	*Fixed air, mephitic air.*	Carbonat { of lime. / of potash, &c. / of iron, &c.	*Chalk.* *Effervescent alkalies.* *Rust of iron, &c.*	Carburet of iron.	*Plumbago.*	6
7	Sulphur, or the radical principle of the sulphuric acid.	....	....	....	Sulphuric acid. .... *With less oxygen.* Sulphureous acid.	*Vitriolic acid.* .... *Sulphureous acid.*	 Sulphureous acid gas.	 *Sulphureous acid gas.*	Sulphat { of potash. / of soda. / of lime. / of aluminous earth. / of barytes. / of iron, &c. Sulphat of potash, &c.	*Vitriolated tartar.* *Glauber salt.* *Selenite.* *Alum.* *Ponderous spar.* *Vitriol of iron, &c.* *Stahl's sulphureous salt.*	Sulphuret { of iron. / of antimony / of lead. Sulph. hydrogenous gas. Sulphuret of potash. } Sulphuret of soda. } Alkaline sulphurs with metals suspended in them. Alkaline sulphuret with carbonaceous matters suspended in it.	*Factitious iron pyrites.* *Antimony.* *Galena.* *Hepatic gas.* *Alkaline livers of sulphur.* *Metallic livers of sulphur* *Livers of sulphur with carbonaceous matters suspended in it.*	7
8	Phosphorus, or the radical principle of the phosphoric acid.	... .	....	....	Phosphoric acid .... *With a smaller proportion of oxygen.* Phosphoric acid.	*Phosphoric acid.* ... *Fuming, or volatile phosphorous acid.*	....	....	Phosphat of soda. Calcareous phosphat. Superfaturated phosphat of soda. Phosphat of potash, &c.	*Phosphoric salt with a base of natrum.* *Earth of bones.* *Haupt's sal perlatum.*	Phosphorised hydrogenous gas. Phosphuret of iron.	*Phosphoric gas.* *Syderite.*	8
9	Radical principle of the muriatic acid.	....	....	....	Muriatic acid. .... *With an excess of oxygen.* Oxygenated muriatic acid.	*Marine acid.* .... *Dephlogisticated marine acid.*	Muriatic acid gas. ..... Oxygenated muriatic acid gas.	*Marine acid gas.* .... *Dephlogisticated marine acid gas.*	Muriat of potash. Muriat of soda. Calcareous muriat, &c. Ammoniacal muriat. Oxygenated muriat of soda, &c.	*Febrifuge salt of Sylvius.* *Marine salt.* *Calcareous marine salt.* *Sal ammoniac.*	....	....	9
10	Radical principle of the boracic acid.	....	....	....	Boracic acid.	*Sedative salt.*	....	....	Borat supersaturated with soda, *or* borax. Borat of soda, &c. *soda saturated with the acid.*	*Common borax.*	....	....	10
11	Radical principle of the fluoric acid.	....	....	....	Fluoric acid.	*Acid of spar.*	Fluoric acid gas.	*Spathose gas.*	Fluat of lime, &c.	*Fluor spar.*	....	....	11
12	Radical principle of the succinic acid.	....	....	....	Succinic acid.	*Volatile salt of amber.*	....	....	Succinat of soda, &c.	....	....	....	12
13	Radical principle of the acetic acid.	....	....	....	Acetous acid. ... . *With more oxygen.* Acetic acid.	*Distilled vinegar.* *Radical vinegar.*	....	....	Acetat { of potash. / of soda. / of lime. / of ammoniac. / of lead. / of copper. Acetat of soda, &c.	*Terra foliata tartari.* *Mineral terra foliata.* *Calcareous acetous salt.* *Spirit of Mindererus.* *Saccharum saturni.* *Verdigris.*	....	....	13
14	Radical principle of the tartareous acid.	....	....	....	Tartareous acid.	....	....	....	Acidulous tartrite of potash. Tartrite of potash. Tartrite of soda, &c.	*Cream of tartar.* *Vegetable salt.* *Salt of Seignette.*	....	....	14
15	Radical principle of the pyro-tartareous acid.	....	....	....	Pyro-tartareous acid....	*Empyreumatic tartareous acid, or spirit of tartar.*	....	....	Pyro-tartrite of lime. Pyro-tartrite of iron, &c.	....	....	....	15
16	Radical principle of the oxalic acid.	....	....	....	Oxalic acid.	*Saccharine acid.*	....	....	Acidulous oxalat of potash. Oxalat of lime. of soda, &c.	*Salt of sorrel.*	....	....	16
17	Radical principle of the Gallic acid.	... .	....	....	Gallic acid.	*Astringent principle.*	....	....	Gallat of soda. of magnesia. of iron, &c.	....	....	....	17
18	Radical principle of the citric acid.	....	....	....	Citric acid.	*Lemon juice.*	....	....	Citrat of potash. of lead, &c.	*Terra foliata, with lemon juice.*			18
19	Radical principle of the malic acid.	....	....	....	Malic acid.	*Acid of apples.* ..	....	....	Malat of lime, &c.	....	....	....	19
20	Radical principle of the benzoic acid.	....	....	....	Benzoic acid.	*Flowers of benzoin.*	....	....	Aluminous benzoat. Benzoat of iron, &c.	....	....	....	20
21	Radical principle of the pyro-ligneous acid.	....	....	....	Pyro-ligneous acid.	*Spirit of wood.* ...	....	....	Pyro-lignite of lime. Pyro-lignite of zinc, &c.	....	....	....	21
22	Radical principle of the pyro-mucous acid.	....	....	....	Pyro-mucous acid.	*Spirit of honey, sugar, &c.*	....	....	Pyro-mucite of magnesia. Ammoniacal, &c. pyro-mucite.	....	....	....	22
23	Radical principle of the camphoric acid.	....	....	....	Camphoric acid.	....	....	....	Camphorat of soda, &c.	....	....	....	23
24	Radical principle of the lactic acid.	....	....	....	Lactic acid........	*Acid of milk.*	....	....	Lactat of lime, &c.	....	....	....	24
25	Radical principle of the saccho-lactic acid.	....	....	....	Saccho-lactic acid.	*Acid of sugar of milk.*	....	....	Sacco-lactat of iron, &c.	....	....	....	25
26	Radical principle of the formic acid.	....	....	....	Formic acid.	*Acid of ants.*	....	....	Ammoniacal, &c. formiat.	*Spirit of magnanimity.*			26
27	Radical principle of the Prussic acid.	....	....	....	Prussic acid.	*Colouring matter of Prussian blue.*	....	....	Prussiat of potash, &c. Prussiat of iron, &c.	*Phlogisticated alkali, or Prussian alkali.* *Prussian blue.*			27
28	Radical principle of the sebacic acid.	....	....	....	Sebacic acid.	*Acid of grease.* ...	....	....	Sebat of lime, &c.	....	....	....	28
29	Radical principle of the lithic acid.	....	....	....	Lithic acid........	*Stone in the bladder.*	....	....	Lithiat of soda, &c.	....	....	....	29
30	Radical principle of the bombic acid.	....	....	....	Bombic acid.	*Acid of the silk-worm.*	....	....	Bombiat of iron, &c.	....	....	....	30

TABLE II.

		I. THE SUBSTANCES NOT DECOMPOUNDED.		II. CONVERTED INTO THE STATE OF GAS BY CALORIC.		III. OXYDS WITH VARIOUS BASES.		IV. OXYDS WITH VARIOUS BASES.		V. OXYDS WITH THEIR BASES.		VI. COMBINATIONS.		
		NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	NAMES NEWLY INVENTED OR ADOPTED.	ANCIENT NAMES.	
31	METALLIC SUBSTANCES.	Arſenic.	*Regulus of arſenic.*	....	....	Oxyd of arſenic.	*White arſenic, or calx of arſenic.*	Yellow / Red } ſulphurated oxyd of arſenic. Arſenical oxyd of potaſh.	*Orpiment.* *Realgar.* *Liver of arſenic.*	Arſeniat of potaſh, &c. Arſeniat of copper.	*Macquer's arſenical neutral ſalt.*	Alloy of arſenic and tin.	*Arſenicated tin.*	31
32		Molybdena.	....	....	....	Oxyd of molybdena. Molybdic acid.	*Calx of molybdena.*	Sulphur of molybdena.	*Molybdena.*	Molybdat.	....	Alloy, &c.	....	32
33		Tungſten.	....	....	....	Oxyd of tungſten. Tunſtic acid.	*Yellow calx of tungſten.*	....	....	Calcareous tunſtat.	*Swediſh tungſten.*	Alloy, &c.	....	33
34		Manganeſe.	*Regulus of manganeſe.*	....	....	White / Black / Vitreous } oxyd of manganeſe.	*Manganeſe.*	....	....	....	....	Alloy of manganeſe and iron.	....	34
35		Nickel.	....	....	....	Oxyd of nickel.	*Calx of nickel.*	....	....	....	....	Alloy of nickel, &c.	....	35
36		Cobalt.	*Regulus of cobalt.*	....	....	Grey / Vitreous } oxyd of cobalt.	*Calx of cobalt.*	Alkaline cobaltic oxyds.	*Precipitates of cobalt again diſſolved by alkalies.*	....	....	Alloy, &c.	....	36
37		Biſmuth.	....	....	....	White / Yellow / Vitreous } oxyd of biſmuth.	*Magiſtery of biſmuth, or white paint.* *Yellow calx of biſmuth.* *Glaſs of biſmuth.*	Sulphurated oxyd of biſmuth.	*Biſmuth precipitated by liver of ſulphur.*	....	....	Alloy, &c.	....	37
38		Antimony.	*Regulus of antimony.*	....	....	Oxyd of antimony { by the nitrous acid. by the muriatic acid. ſublimated. vitreous.	*Diaphoretic antimony.* *Powder of Algarotti.* *Flowers of ſnow of antimony.* *Glaſs of regulus of antimony.*	Grey / Red / Orange / Vitreous } ſulphurated oxyd of antimony. Alkaline oxyd of antimony.	*Grey calx of antimony.* *Kermes mineral.* *Golden ſulphur.* *Glaſs and liver of antimony.* *Rotrou's ſolvent.*	....	....	Alloy, &c.	....	38
39		Zinc.	....	....	....	Oxyd of zinc. Sublimated oxyd of zinc.	*Calx of zinc.* *Flowers of zinc, pompholix, &c.*	Sulphurated oxyd of zinc.	*Precipitate of zinc by liver of ſulphur, or factitious blend.*	....	....	Alloy, &c.	....	39
40		Iron.	....	....	....	Black / Red } oxyd of iron.	*Martial æthiops.* *Aſtringent ſaffron of Mars.*	Sulphurated oxyd of iron.	....	....	....	Alloy, &c.	....	40
41		Tin.	....	....	....	White oxyd of tin.	*Calx, or putty of tin.*	Yellow ſulphurated oxyd of tin.	*Aurum muſſivum.*	....	....	Alloy, &c.	....	41
42		Lead.	....	....	....	White / Yellow / Red / Vitreous } oxyd of lead.	*Ceruſe, or white lead.* *Maſſicot.* *Minium.* *Litharge.*	Sulphurated oxyd of lead.	....	....	....	Alloy, &c.	....	42
43		Copper.	....	....	....	Red / Green / Blue } oxyd of copper.	*Brown calx of copper.* *Green calx of copper, or verdigris.* *Mountain blue.*	Ammoniacal oxyd of copper.	....	....	....	Alloy, &c.	....	43
44		Mercury.	....	....	....	Blackiſh / Yellow / Red. } mercurial oxyd.	*Æthiops* per ſe. *Turbith mineral.* *Precipitate* per ſe.	Black / Red { ſulphurated oxyd of mercury.	*Æthiops mineral.* *Cinnabar.*	....	....	Alloy, or amalgam of, &c.	....	44
45		Silver.	....	....	....	Oxyd of ſilver.	*Calx of ſilver.*	Sulphurated oxyd of ſilver.	....	....	....	Alloy, &c.	....	45
46		Platina.	....	....	....	Oxyd of platina.	*Calx of platina.*	....	....	....	....	Alloy of platina and gold.	....	46
47		Gold.	....	....	....	Oxyd of gold.	*Calx of gold.*	....	....	....	....	Alloy, &c.	....	47
48	*Earths.*	Siliceous earth.	*Vitrifiable earth, quartz, &c.*	....	....	....	....	....	....	....	....	....	....	48
49		Aluminous earth.	*Clay, or earth of alum.*	....	....	....	....	....	....	....	....	....	....	49
50		Barytes.	*Terra ponderoſa.*	....	....	....	....	....	....	....	....	....	....	50
51		Lime.	*Calcareous earth.*	....	....	....	....	....	....	....	....	....	....	51
52		Magneſia.	....	....	....	....	....	....	....	....	....	....	....	52
53		Potaſh.	*Vegetable fixed alkali of tartar, &c.*	....	....	....	....	....	....	....	....	....	....	53
54	*Alkalies.*	Soda.	*Mineral alkali, marine alkali natrum.*	....	....	....	....	....	....	....	....	....	....	54
55		Ammoniac.	*Fluor, or cauſtic volatile alkali.*	Ammoniacal gas.	*Alkaline gas.*	....	....	....	....	....	....	....	....	55

NAMES GIVEN TO COMPOUND SUBSTANCES WHICH COMBINE WITHOUT DECOMPOSITION.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
New Names.	Mucous matter.	Glutinous matter, or gluten.	Sugar.	Starch.	Fixed oil.	Volatile oil.	The aroma, or aromatus principle.	Reſin.	Extractive matter.	Extracto-reſinous matter. { in which the extractive matter predominates.	Reſinous-extractive matter. { in which the reſin predominates.	Feculum.	Alcohol, or ſpirit of wine.	Alcohol { of potaſh. of guaiacum. of ſcammony. of myrrh, &c.	Nitrous / Gallic / Muriatic } alcohol.	Sulphuric / Muriatic / Acetic, &c. } ether.	Alkaline / earthy / Acid / Metallic } ſoaps. Saponul of turpentine, &c.
Ancient Names.	*Mucilage.*	*Glutinous matter.*	*Saccharine matter.*	*Amylaceous matter.*	*Fat oil.*	*Eſſential oil.*	*Spiritus rector.*	*Reſin.*	*Extractive matter.*			*Feculum.*	*Spirit of wine.*	*Alkaline tincture.* *Tincture of guaiacum.* ——— *ſcammonium.* ——— *myrrh, &c.*	*Dulcified ſpirit of wine.* *Tincture of nut-galls.* *Dulcified marine acid.*	*Ether of Frobenius.* *Marine ether.* *Acetous ether, &c.*	*Alkaline, earthy, &c. ſoaps* *Combinations of volatile oils with baſes.*

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